COASTLINE COLLEGE

2018-2019
Annual Program Review
Sciences
(Life and Physical)

COASTLINE COLLEGE

2018-2019
Annual Program Review

Life Sciences
(Biology, Ecology,
Marine Science, and Biotechnology)

Table of Contents

Section 1: Program Planning: Biology

Internal Analysis

Productivity	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Biology Enrollment	3,345	3,758	3,547
College Student Resident FTES	6,073.20	6,343.35	5,928.76
Biology Resident FTES	446.46	515.95	496.54
Sections	74	88	93
Fill Rate	83.9%	84.0%	83.2%
WSCH/FTEF 595 Efficiency	675	605	576
FTEF/30	11.0	14.2	14.5
Extended Learning Enrollment	1,393	1,291	1,033

The percentage change in the number of Biology **enrollments** in 2016-17 showed a moderate decrease from 2015-16 and a moderate increase from 2014-15.

The percentage change in 2016-17 **resident FTES** in Biology credit courses showed a slight decrease from 2015-2016 and a substantial increase in comparison with resident FTES in 2014-15.

The percentage change in the number of **sections** in Biology courses in 2016-17 showed a moderate increase from 2015-16 and a substantial increase from the number of sections in 2014-15.

The percentage change in the **fill rate** in 2016-17 for Biology courses showed a minimal difference from 2015-16 and a minimal difference in comparison with the fill rate in 2014-15.

The percentage change in the **WSCH/FTEF** ratio in Biology courses in 2016-17 showed a slight decrease from 2015-16 and a substantial decrease from 2014-15.

The percentage change in the **FTEF/30** ratio for Biology courses in 2016-17 showed a slight increase from 2015-16 and a substantial increase in comparison with the FTEF/30 ratio in 2014-15.

There was a substantial decrease in the number of Biology **Extended Learning enrollments** in 2016-17 from 2015-16 and a substantial decrease from 2014-15.

Comparison of Enrollment Trends	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Biology Enrollment	3,345	3,758	3,547

Modality	2014-15	2015-16	2016-17
Traditional	34.2%	37.7%	38.7%
Online	44.4%	37.7%	42.8%
Hybrid	0.5%	1.6%	1.7%
Correspondence (Cable, Telecourse, Other DL)	20.9%	22.9%	16.7%

Gender	2014-15	2015-16	2016-17
Female	57.0%	55.6%	57.7%
Male	41.6%	43.0%	40.9%
Unknown	1.5%	1.4%	1.4%

Ethnicity	2014-15	2015-16	2016-17
African American	6.5%	7.3%	6.4%
American Indian/AK Native	0.2%	0.3%	0.3%
Asian	36.9%	38.2%	36.2%
Hispanic	13.5%	14.6%	15.0%
Pacific Islander/HI Native	0.3%	0.3%	0.4%
White	28.6%	25.5%	27.0%
Multi-Ethnicity	12.7%	12.6%	13.8%
Other/Unknown	1.2%	1.1%	0.8%

Age Group	2014-15	2015-16	2016-17
19 or Less	11.1%	9.2%	11.2%
20 to 24	38.7%	39.4%	38.8%
25 to 29	19.7%	20.8%	21.0%
30 to 34	9.9%	10.8%	10.4%
35 to 39	6.3%	6.4%	6.9%
40 to 49	8.2%	7.8%	7.0%
50 and Older	6.2%	5.7%	4.7%

Biology courses made up 5.9% of all state-funded enrollment for 2016-17. The percentage difference in Biology course **enrollment** in 2016-17 showed a minimal difference from 2015-16 and a minimal difference from 2014-15. Enrollment in Biology during 2016-17 showed 38.7% of courses were taught **traditional (face-to-fac**e), 42.8% were taught **online**, 1.7% were taught in the **hybrid** modality, and 16.7% were taught in the **correspondence (cable, telecourse, and other distance learning)** modality.

In 2016-17, Biology enrollment consisted of 57.7% **female**, 40.9% **male**, and 1.4% students of **unknown** gender. In 2016-17, Biology enrollment consisted of 6.4% **African American** students, 0.3% **American Indian/AK Native** students, 36.2% **Asian** students, 15.0% **Hispanic** students, 0.4% **Pacific Islander/HI Native** students, 27.0% **White** students, 13.8% **multi-ethnic** students, and 0.8% students of **other** or **unknown** ethnicity. The age breakdown for 2016-17 enrollments in Biology revealed 11.2% aged **19 or less**, 38.8% aged **20 to 24**, 21.0% aged **25 to 29**, 10.4% aged **30 to 34**, 6.9% aged **35 to 39**, 7.0% aged **40 to 49**, and 4.7% aged **50 and older**.

Awards	2014-15	2015-16	2016-17
College Awarded Degrees	1,882	2,109	2,220
Biology Degrees	0	0	0
College Awarded Certificates	748	644	602
Biology Certificates	0	0	0

The percentage change in the number of Biology **degrees** awarded in 2016-17 showed no comparative data from 2015-16 and no comparative data from the number of degrees awarded in 2014-15.

The percentage change in the number of Biology **certificates** awarded in 2016-17 showed no comparative data from 2015-16 and showed no comparative data in comparison with the number of certificates awarded in 2014-15.

Comparison of Success Rates	2014-15	2015-16	2016-17
College State-Funded Success Rate	65.4%	66.7%	68.1%
College Institution Set Standard Success Rate	55.3%	55.4%	56.7%
Biology Success Rate	74.7%	75.2%	77.0%

Modality	2014-15	2015-16	2016-17
Traditional	81.5%	85.3%	84.4%
Online	75.4%	75.6%	77.2%
Hybrid	72.2%	85.0%	91.8%
Correspondence (Cable, Telecourse, Other DL)	62.3%	57.4%	58.2%

Gender	2014-15	2015-16	2016-17
Female	76.7%	79.4%	79.8%
Male	71.7%	69.6%	73.1%
Unknown	83.7%	82.4%	77.1%

Ethnicity	2014-15	2015-16	2016-17
African American	47.2%	45.3%	56.4%
American Indian/AK Native	50.0%	58.3%	36.4%
Asian	83.2%	85.4%	85.2%
Hispanic	65.3%	63.6%	65.3%
Pacific Islander/HI Native	60.0%	38.5%	80.0%
White	77.2%	77.9%	80.7%
Multi-Ethnicity	70.0%	70.0%	72.2%
Other/Unknown	65.0%	83.3%	69.0%

Age Group	2014-15	2015-16	2016-17
19 or Less	78.4%	79.0%	86.0%
20 to 24	75.3%	80.4%	79.8%
25 to 29	73.3%	75.5%	74.2%
30 to 34	73.9%	64.8%	74.7%
35 to 39	70.6%	67.6%	68.4%
40 to 49	73.6%	66.2%	72.3%
50 and Older	75.6%	72.4%	69.9%

The percentage difference in the **course success rate** in Biology courses in 2016-17 showed a slight increase from 2015-16 and a slight increase from 2014-15. When comparing the percentage point difference in the Biology 2016-17 course success rate to the College's overall success average* (66.6%) and the institution-set standard* (56.6%) for credit course success, the Biology **course success rate** was moderately higher than the **college average** and substantially higher than the **institution-set standard*** (56.6%) for credit course success.

When comparing the percentage point difference between instructional modalities to the overall Biology success rate for 2016-17, the success rate was moderately higher for **traditional (face-to-face)** Biology courses, minimally different for **online** courses, substantially higher for **hybrid courses**, and substantially lower for **correspondence (cable, telecourse, and other distance learning)** courses.

When comparing the percentage point difference between genders to the overall Biology success rate for 2016-17, the success rate was slightly higher for **female** students in Biology courses, slightly lower for **male** students, and minimally different for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Biology success rate for 2016-17, the success rate was substantially lower for **African American** students in Biology courses, substantially lower for **American Indian/AK Native** students, moderately higher for **Asian** students, substantially lower for **Hispanic** students, slightly higher for **Pacific Islander/HI Native** students, slightly higher for **White** students, slightly lower for **multi-ethnic** students, and moderately lower for students of **other** or **unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Biology success rate for 2016-17, the success rate was moderately higher for students aged **19 or less** in Biology courses, slightly higher for students aged **20 to 24**, slightly lower for students aged **25 to 29**, slightly lower for students aged **30 to 34**, moderately lower for students aged **35 to 39**, slightly lower for students aged **40 to 49**, and moderately lower for students aged **50 and older**.

Comparison of Retention Rates	2014-15	2015-16	2016-17
College State-Funded Retention Rate	85.7%	86.1%	85.8%
College Institution Set Standard Retention Rate	70.1%	69.9%	73.2%
Biology Retention Rate	86.6%	87.1%	88.3%

Modality	2014-15	2015-16	2016-17
Traditional	87.1%	88.4%	89.8%
Online	86.8%	86.9%	88.5%
Hybrid	77.8%	90.0%	93.4%
Correspondence (Cable, Telecourse, Other DL)	85.6%	84.9%	84.0%

Gender	2014-15	2015-16	2016-17
Female	86.7%	87.8%	89.1%
Male	86.2%	86.0%	87.1%
Unknown	91.8%	88.2%	91.7%

Ethnicity	2014-15	2015-16	2016-17
African American	78.7%	78.7%	80.6%
American Indian/AK Native	100.0%	83.3%	81.8%
Asian	90.0%	90.5%	91.5%
Hispanic	82.2%	84.4%	83.5%
Pacific Islander/HI Native	90.0%	92.3%	86.7%
White	87.4%	87.1%	90.3%
Multi-Ethnicity	82.9%	84.4%	85.3%
Other/Unknown	90.0%	88.1%	86.2%

Age Group	2014-15	2015-16	2016-17
19 or Less	87.3%	91.0%	92.0%
20 to 24	87.2%	88.8%	88.6%
25 to 29	84.1%	86.8%	88.3%
30 to 34	83.6%	80.5%	88.3%
35 to 39	84.8%	84.0%	84.0%
40 to 49	88.3%	85.2%	90.0%
50 and Older	93.2%	88.1%	81.3%

The percentage difference in the **retention rate** in Biology courses in 2016-17 showed a slight increase from 2015-16 and a slight increase from 2014-15. When comparing the percentage point difference in the Biology 2016-17 retention rate to the College's overall retention average* (85.8%) and the institution-set standard* (73.2%) for credit course success, the Biology **retention rate** was slightly higher than the **college average** and substantially higher than the **institution-set standard*** for credit course success.

When comparing the percentage point difference between instructional modalities to the overall Biology retention rate for 2016-17, the retention rate was slightly higher for **traditional (face-to-face)** Biology courses, minimally different for **online** courses, moderately higher for **hybrid courses**, and slightly lower for **correspondence (cable, telecourse, and other distance learning)** courses.

When comparing the percentage point difference between genders to the overall Biology retention rate for 2016-17, the retention rate was minimally different for **female** students in Biology courses, slightly lower for **male** students, and slightly higher for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Biology retention rate for 2016-17, the retention rate was moderately lower for **African American** students in Biology courses, moderately lower for **American Indian/AK Native** students, slightly higher for **Asian** students, slightly lower for **Hispanic** students, slightly lower for **Pacific Islander/HI Native** students, slightly higher for **White** students, slightly lower for **multi-ethnic** students, and slightly lower for students of **other or unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Biology retention rate for 2016-17, the retention rate was slightly higher for students aged **19 or less** in Biology courses, minimally different for students aged **20 to 24**, minimally different for students aged **25 to 29**, minimally different for students aged **30 to 34**, slightly lower for students aged **35 to 39**, slightly higher for students aged **40 to 49**, and moderately lower for students aged **50 and older**.

*Note: College term success and retention averages and institution-set standards are computed annually and recorded in the college Key Performance Indicators (KPI) Scorecard.

Data Source: Banner Student Information System

Calculation Categories

Language	Range
Minimal to No Difference	< 1.0%
Slight Increase/Decrease	Between 1.0% and 5.0%
Moderate Increase/Decrease	Between 5.1% and 10.0%
Substantial Increase/Decrease	> 10.0%

Section 1: Program Planning: Marine Science

Internal Analysis

Productivity	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Marine Science Enrollment	481	529	498
College Student Resident FTES	6,073.20	6,343.35	5,928.76
Marine Science Resident FTES	44.10	46.78	44.89
Sections	5	5	5
Fill Rate	69.7%	76.5%	68.9%
WSCH/FTEF 595 Efficiency	1,288	1,331	1,175
FTEF/30	0.6	0.6	0.6
Extended Learning Enrollment	191	148	114

The percentage change in the number of Marine Science **enrollments** in 2016-17 showed a moderate decrease from 2015-16 and a slight increase from 2014-15.

The percentage change in 2016-17 **resident FTES** in Marine Science credit courses showed a slight decrease from 2015-2016 and a slight increase in comparison with resident FTES in 2014-15.

The percentage change in the number of **sections** in Marine Science courses in 2016-17 showed a minimal difference from 2015-16 and a minimal difference from the number of sections in 2014-15.

The percentage change in the **fill rate** in 2016-17 for Marine Science courses showed a moderate decrease from 2015-16 and a slight decrease in comparison with the fill rate in 2014-15.

The percentage change in the **WSCH/FTEF** ratio in Marine Science courses in 2016-17 showed a substantial decrease from 2015-16 and a moderate decrease from 2014-15.

The percentage change in the **FTEF/30** ratio for Marine Science courses in 2016-17 showed a moderate increase from 2015-16 and a substantial increase in comparison with the FTEF/30 ratio in 2014-15.

There was a substantial decrease in the number of Marine Science **Extended Learning enrollments** in 2016-17 from 2015-16 and a substantial decrease from 2014-15.

Comparison of Enrollment Trends	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Marine Science Enrollment	481	529	498

Modality	2014-15	2015-16	2016-17
Traditional	0.0%	0.0%	1.8%
Online	0.0%	0.9%	11.0%
Hybrid	0.0%	0.0%	0.0%
Correspondence (Cable, Telecourse, Other DL)	100.0%	99.1%	87.1%

Gender	2014-15	2015-16	2016-17
Female	14.8%	11.7%	12.0%
Male	84.4%	88.1%	86.7%
Unknown	0.8%	0.2%	1.2%

Ethnicity	2014-15	2015-16	2016-17
African American	14.3%	12.5%	13.7%
American Indian/AK Native	1.7%	2.1%	1.2%
Asian	9.6%	5.3%	6.0%
Hispanic	17.9%	24.4%	26.3%
Pacific Islander/HI Native	0.4%	1.1%	0.8%
White	41.0%	42.5%	41.4%
Multi-Ethnicity	13.1%	10.8%	9.2%
Other/Unknown	2.1%	1.3%	1.4%

Age Group	2014-15	2015-16	2016-17
19 or Less	5.2%	1.9%	2.6%
20 to 24	17.9%	14.2%	13.3%
25 to 29	17.9%	18.1%	17.5%
30 to 34	16.0%	16.1%	19.3%
35 to 39	12.9%	16.1%	14.7%
40 to 49	18.9%	23.3%	19.9%
50 and Older	11.2%	10.4%	12.9%

Marine Science courses made up 0.8% of all state-funded enrollment for 2016-17. The percentage difference in Marine Science course **enrollment** in 2016-17 showed a slight decrease from 2015-16 and a slight decrease from 2014-15. Enrollment in Marine Science during 2016-17 showed 1.8% of courses were taught **traditional (face-to-fac**e), 11.0% were taught **online**, 0.0% were taught in the **hybrid** modality, and 87.1% were taught in the **correspondence (cable, telecourse, and other distance learning)** modality.

In 2016-17, Marine Science enrollment consisted of 12.0% **female**, 86.7% **male**, and 1.2% students of **unknown** gender. In 2016-17, Marine Science enrollment consisted of 13.7% **African American** students, 1.2% **American Indian/AK Native** students, 6.0% **Asian** students, 26.3% **Hispanic** students, 0.8% **Pacific Islander/HI Native** students, 41.4% **White** students, 9.2% **multi-ethnic** students, and 1.4% students of **other** or **unknown** ethnicity. The age breakdown for 2016-17 enrollments in Marine Science revealed 2.6% aged **19 or less**, 13.3% aged **20 to 24**, 17.5% aged **25 to 29**, 19.3% aged **30 to 34**, 14.7% aged **35 to 39**, 19.9% aged **40 to 49**, and 12.9% aged **50 and older**.

Awards	2014-15	2015-16	2016-17
College Awarded Degrees	1,882	2,109	2,220
Marine Science Degrees	0	0	0
College Awarded Certificates	748	644	602
Marine Science Certificates	0	0	0

The percentage change in the number of Marine Science **degrees** awarded in 2016-17 showed no comparative data from 2015-16 and no comparative data from the number of degrees awarded in 2014-15.

The percentage change in the number of Marine Science **certificates** awarded in 2016-17 showed no comparative data from 2015-16 and showed no comparative data in comparison with the number of certificates awarded in 2014-15.

Comparison of Success Rates	2014-15	2015-16	2016-17
College State-Funded Success Rate	65.4%	66.7%	68.1%
College Institution Set Standard Success Rate	55.3%	55.4%	56.7%
Marine Science Success Rate	57.8%	63.6%	64.3%

Modality	2014-15	2015-16	2016-17
Traditional	-	-	100.0%
Online	-	100.0%	78.2%
Hybrid	-	-	-
Correspondence (Cable, Telecourse, Other DL)	57.8%	63.3%	61.8%

Gender	2014-15	2015-16	2016-17
Female	52.1%	71.0%	78.3%
Male	59.1%	62.8%	62.0%
Unknown	25.0%	0.0%	83.3%

Ethnicity	2014-15	2015-16	2016-17
African American	50.7%	57.6%	47.1%
American Indian/AK Native	62.5%	72.7%	83.3%
Asian	63.0%	78.6%	86.7%
Hispanic	52.3%	55.5%	59.5%
Pacific Islander/HI Native	50.0%	16.7%	50.0%
White	61.4%	67.6%	71.8%
Multi-Ethnicity	57.1%	68.4%	50.0%
Other/Unknown	60.0%	71.4%	85.7%

Age Group	2014-15	2015-16	2016-17
19 or Less	68.0%	80.0%	61.5%
20 to 24	54.7%	58.7%	75.8%
25 to 29	52.3%	56.3%	57.5%
30 to 34	63.6%	66.7%	60.4%
35 to 39	51.6%	62.4%	61.6%
40 to 49	61.5%	65.0%	66.7%
50 and Older	59.3%	74.5%	67.2%

The percentage difference in the **course success rate** in Marine Science courses in 2016-17 showed a minimal difference from 2015-16 and a substantial increase from 2014-15. When comparing the percentage point difference in the Marine Science 2016-17 course success rate to the College's overall success average* (66.6%) and the institution-set standard* (56.6%) for credit course success, the Marine Science **course success rate** was slightly lower than the **college average** and moderately higher than the **institution-set standard*** (56.6%) for credit course success.

When comparing the percentage point difference between instructional modalities to the overall Marine Science success rate for 2016-17, the success rate was substantially higher for **traditional (face-to-face)** Marine Science courses, substantially higher for **online** courses, not applicable for **hybrid courses**, and slightly lower for **correspondence (cable, telecourse, and other distance learning)** courses.

When comparing the percentage point difference between genders to the overall Marine Science success rate for 2016-17, the success rate was substantially higher for **female** students in Marine Science courses, slightly lower for **male** students, and substantially higher for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Marine Science success rate for 2016-17, the success rate was substantially lower for **African American** students in Marine Science courses, substantially higher for **American Indian/AK Native** students, substantially higher for **Asian** students, slightly lower for **Hispanic** students, substantially lower for **Pacific Islander/HI Native** students, moderately higher for **White** students, substantially lower for **multi-ethnic** students, and substantially higher for students of **other** or **unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Marine Science success rate for 2016-17, the success rate was slightly lower for students aged **19 or less** in Marine Science courses, substantially higher for students aged **20 to 24**, moderately lower for students aged **25 to 29**, slightly lower for students aged **30 to 34**, slightly lower for students aged **35 to 39**, slightly higher for students aged **40 to 49**, and slightly higher for students aged **50 and older**.

Comparison of Retention Rates	2014-15	2015-16	2016-17
College State-Funded Retention Rate	85.7%	86.1%	85.8%
College Institution Set Standard Retention Rate	70.1%	69.9%	73.2%
Marine Science Retention Rate	79.8%	80.3%	84.9%

Modality	2014-15	2015-16	2016-17
Traditional	-	-	100.0%
Online	-	100.0%	90.9%
Hybrid	-	-	-
Correspondence (Cable, Telecourse, Other DL)	79.8%	80.1%	83.9%

Gender	2014-15	2015-16	2016-17
Female	71.8%	91.9%	90.0%
Male	81.0%	78.9%	84.3%
Unknown	100.0%	0.0%	83.3%

Ethnicity	2014-15	2015-16	2016-17
African American	81.2%	83.3%	83.8%
American Indian/AK Native	75.0%	90.9%	100.0%
Asian	80.4%	82.1%	93.3%
Hispanic	74.4%	77.3%	83.2%
Pacific Islander/HI Native	100.0%	50.0%	75.0%
White	81.7%	81.3%	84.5%
Multi-Ethnicity	77.8%	80.7%	84.8%
Other/Unknown	90.0%	71.4%	100.0%

Age Group	2014-15	2015-16	2016-17
19 or Less	80.0%	90.0%	92.3%
20 to 24	77.9%	80.0%	92.4%
25 to 29	77.9%	76.0%	87.4%
30 to 34	81.8%	79.8%	78.1%
35 to 39	82.3%	78.8%	79.5%
40 to 49	78.0%	82.9%	86.9%
50 and Older	83.3%	83.6%	85.9%

The percentage difference in the **retention rate** in Marine Science courses in 2016-17 showed a moderate increase from 2015-16 and a moderate increase from 2014-15. When comparing the percentage point difference in the Marine Science 2016-17 retention rate to the College's overall retention average* (85.8%) and the institution-set standard* (73.2%) for credit course success, the Marine Science **retention rate** was minimally different than the **college average** and substantially higher than the **institution-set standard*** for credit course success.

When comparing the percentage point difference between instructional modalities to the overall Marine Science retention rate for 2016-17, the retention rate was substantially higher for **traditional (face-to-face)** Marine Science courses, moderately higher for **online** courses, not applicable for **hybrid courses**, and slightly lower for **correspondence (cable, telecourse, and other distance learning)** courses.

When comparing the percentage point difference between genders to the overall Marine Science retention rate for 2016-17, the retention rate was moderately higher for **female** students in Marine Science courses, minimally different for **male** students, and slightly lower for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Marine Science retention rate for 2016-17, the retention rate was slightly lower for **African American** students in Marine Science courses, substantially higher for **American Indian/AK Native** students, moderately higher for **Asian** students, slightly lower for **Hispanic** students, moderately lower for **Pacific Islander/HI Native** students, minimally different for **White** students, minimally different for **multi-ethnic** students, and substantially higher for students of **other or unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Marine Science retention rate for 2016-17, the retention rate was moderately higher for students aged **19 or less** in Marine Science courses, moderately higher for students aged **20 to 24**, slightly higher for students aged **25 to 29**, moderately lower for students aged **30 to 34**, moderately lower for students aged **35 to 39**, slightly higher for students aged **40 to 49**, and minimally different for students aged **50 and older**.

*Note: College term success and retention averages and institution-set standards are computed annually and recorded in the college Key Performance Indicators (KPI) Scorecard.

Data Source: Banner Student Information System

Calculation Categories

Language	**Range**
Minimal to No Difference	< 1.0%
Slight Increase/Decrease	Between 1.0% and 5.0%
Moderate Increase/Decrease	Between 5.1% and 10.0%
Substantial Increase/Decrease	> 10.0%

Section 1: Program Planning: ECOLOGY

Ecology 100 was designed as an open educational resource (OER) and was offered for the first time in Spring 2018. The preliminary data is below:

Ac_Yr	2017-2018		
Course	Enrolled	Success	Retention
ECOL C100	36	75.0%	83.3%

Section 1: Program Planning: HEALTH SCIENCE CERTIFICATE

Our Health Science Certificates awarded for the pre-health care transfer student in nursing, pre-med, pre-dent, pharmacy, physical therapy, occupational therapy, and physician assistant has doubled in the 4 years of being offered. We continue to market this on our newly developed Life Sciences (Biology) web page and our Health Science Brochure and Health Science Academic Triathlon.

Coastline Community College
Degree and Certificate Attainment
2012-2013 to 2017-2018

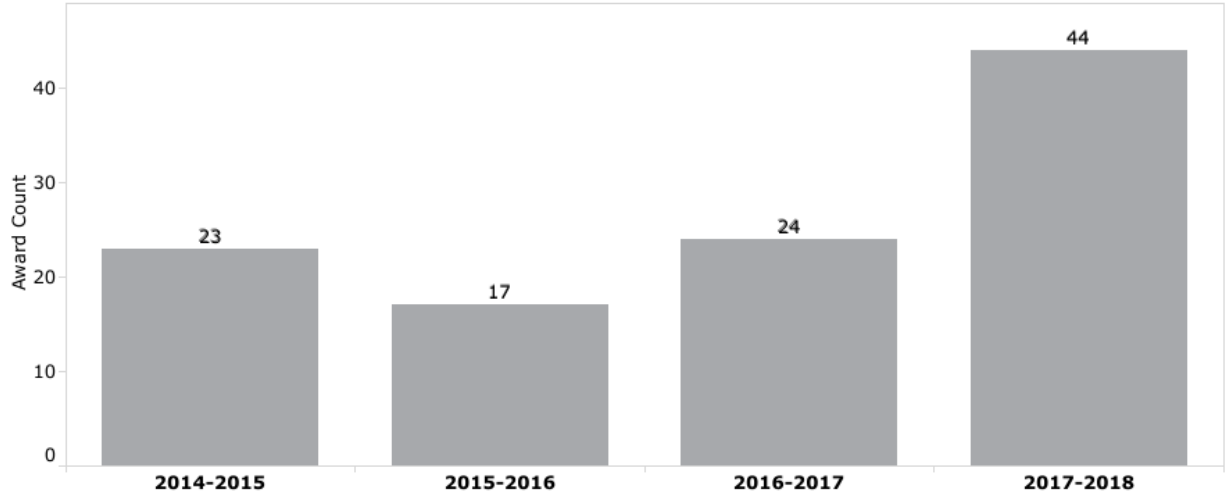
Branch
All

Major
All

Award Type
All

Award Type - Detail..
All

Degrees and Certificates by Year



Degrees and Certificates by Major

Major	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Gerontology	10	11	15	12	14	19
Health and Fitness	1	1	8	10	10	27
Health Care Management	68	102	94	109	100	70
Health Science			23	17	24	44
History	9	9	4	6	7	7
Homeland Security (TSA)		9			7	
Human Resource Specialization	47	86	84	110	132	85

Source: CCCD Banner Student Information System
Updated: 6/28/2018

Student (SLOs) and Program Student Learning Outcome (PSLOs)

1. SLOs are determined through the methodology determined by the Institutional Research, Planning, Effectiveness and Grant Development and SLO coordinator
2. SLOs are determined through a survey designed for students. They are given paraphrases of the SLOs and asked how comfortable they are in performing that SLO. Then they are asked to explain. This was initially piloted with Survey Monkey in a BIOL 220 class. This summer, it was added as a required assignment in Canvas for the BIOL 220 class. Its results will be discussed in our first fall full time faculty meeting.

Curriculum Review

Summarize curriculum activities in the past year, providing dates of revisions, new course adoptions, and/or course deletions. Present a list of current degree(s)/certificate(s) and write a summary on new any degree or certificate discontinued over the past year.

Table Curriculum Review

Course	Date Reviewed	Status
BIOL 122 Bioethics	New Course	To start Spring 2019
ECOL 100	New Online Course offering	Started Spring 2018

Progress on Initiative(s)

Table Progress on Forward Strategy Initiatives

Initiative(s)	Status	Progress Status	Outcome(s)
Hire 2nd Full Time Instructional Lab Associate	In-Progress	Awaiting funding	Unknown
Develop a STEAM Academy	Not Started	delayed	Unclear at this time
Open a human cadaver lab	In-Progress	Awaiting feasibility study	Awaiting feasibility study
Host a health science triathlon	Completed	completed	54 students participated. One hundred student in the audience.
Create new Lab Space at Garden Grove	Not Started	delayed	none
Market the Health Science Certificate and ADT Biology	Completed	completed	See attached

Create a new biotechnology certificate	Not Started	delayed	Awaiting opinion from administrators for feasibility
Maintain lab safety and support sciences courses at the college	Completed	ongoing	Guidelines on Canvas for the Biology courses. Still require an additional Full Time Instructional Lab Associate
Yearly Budget. Ongoing Biological Sciences Consumables/Contracts (included is the Additional Current Needs laundry contract) under the Consumables Assessment: Current Needs	Completed	Most of this is awaiting release of the college budget	Most of this is awaiting release of the college budget
Increase the number of microscopes to meet course and student demand	Completed	purchased	
Build program awareness	Completed	continuing	Created a Health Science Brochure; Created a Departmental Web Page
Strengthen the student learning experience with skull and heart models	Completed	completed	Improved student learning
Maintain lab specimens and ensure classroom safety	Completed	ongoing	Improved communication
3D printer to use with Art department at NBC	In-Progress	Awaiting funding	Not purchased yet
Statistical Analysis Package	In-Progress	Awaiting funding	Not purchased yet
Purchase Heat Blocks	Completed	completed	To be used in cellular biology
Increase Biotechnology Equipment to strengthen the program	Not Started	None	Will need buy-in from the school/district in order to complete
Upgrade the Garden Grove Center Labs	Not Started	None	None
Additional lab space at GGC/NBC	Not Started	None	Will need buy-in from the school/district in order to complete
-70 ^{0}C freezer	In-Progress	Awaiting funding	Not purchased yet

Response to Program/Department Committee Recommendation(s)

Progress on Recommendations

Recommendation(s)	Status	Response Summary
Work with the Instructional Wing to identify opportunities for lab expansions for all sciences.	Awaiting administrative approval	No work currently being done on this. Best place for lab expansion and consolidation remains the 3rd floor of Garden Grove
Secure a National Science Foundation (NSF) grant to support student research projects.	Waiting to here	STEM grants written and submitted
Evaluate the impact of guided pathways on the Sciences Program	ongoing	In biology, we have created various road maps to meet our health care students. We also have ongoing work-study programs to promote the still pending Biology ADT (it is waiting on Math and Chem C-ID approvals).

Program Planning and Communication Strategies

Describe the communication methods and interaction strategies used by your program faculty to discuss programmatic-level planning, SLO/PSLO data, institutional performance data, and curriculum and programmatic development.

The Full Time Biology faculty routinely meets once a month, typically on the first or second Friday (depending on the Curriculum Committee meetings).

SLOs are currently being tracked two ways:

1. SLOs are determined through the methodology determined by the Institutional Research, Planning, Effectiveness and Grant Development and SLO coordinator
2. SLOs are determined through a survey designed for students. They are given paraphrases of the SLOs and asked how comfortable they are in performing that SLO. Then they are asked to explain. This was initially piloted with Survey Monkey in a BIOL 220 class. This summer, it was added as a required assignment in Canvas for the BIOL 220 class. Its results will be discussed in our first fall full time faculty meeting.

Implications of Change

Provide a summation of perspective around the implications associated with shift in the program performance trends-see our Department Accomplishments and our emphasis on the pre-health career student. Once the C-IDs for Math and Chemistry are approved, our Biology ADT can be approved and we can continue to market and grow it through our road maps and work study programs.

Department Accomplishments

1. Developed a Pre-med Club (Below Pre-med Club volunteering at Share-Ourselves)

- **Fall 2017**
- BLS Training Certification - Dec. 9
- **Spring 2018**
- Pre-Med Club Bake Sale Fundraiser - Mar. 8
- Coastline College Health Fair NBC - Date?
- Share Ourselves Taco Night Fundraiser - Apr. 20
- Relay for Life of La Mirada Cancer Walk - May 18

2. Developed prostheses for children (through Work Study Program). Other programs provided to students through Work Based Learning: 1) Field research in Marine Science and Environmental Science in cooperation with Back Bay Science Center in Newport Beach, and Fairview Park in Costa Mesa, 2) Health Science and Biotechnology opportunities that include physical therapy assistant training, 3) 3D prosthetic printing for pediatric patients, and 4) pharmacy tech training, 5) and molecular biology techniques using CRISPR. This summer BIOL292 students involved in physical therapy and 3D printing traveled to international sites to deliver materials to a prosthetic chapter working on innovative designs for children in Chile. Students interested in marine and environmental science took marine life inventory data from the ocean on research boats and learned statistical analysis techniques with the Back Bay Science Center. Students involved in pharmacy tech projects and molecular biology transformed bacteria to make them resistant to antibiotics and developed protocols to find antibiotic effectiveness in natural sources. Students have the opportunity to present their projects at the Undergraduate Research Conference held at UCLA each Spring.

3. Developed OER (online educational resources) for Biology 100, Ecology 100, and BIOL220 Human Anatomy

4. Completed the 3rd Academic Health Science Triathlon

5. Increased awarded Health Science Certificates
6. Created a brochure for the Health Science Certificate
7. Developing course lab books for Cell and Molecular Biology
8. Updated editions to lab book for Human Physiology
9. Offered new courses including Medical Terminology for the Health Professionals
10. Developed new courses including Bioethics, to be offered Spring 2019
11. Expanded the Work Study Program to include research projects at Back Bay Science Center in ecology and marine science, and CRISPR in cell and molecular biology; and work experience at local physical therapy clinics.
12. Team Building event, July 13, 2018 at BrainyActz Escape Room for Full Time faculty and Instructional Lab Associates

13. Yakult Factory Tour, July 27, 2018

Section 2: Human Capital Planning

Table 2.1 Staffing Plan

Year	Administrator	Management	F/T Faculty	P/T Faculty	Classified	Hourly
Previous year 2017-18	Dean 1		Biology faculty 5	Biology faculty 17	Full Time Instructional Lab Associate-1	Up to 3 part time temporary Instructional Lab Associates
Current year 2018-19	Dean 1		Biology faculty 5	Biology faculty 21	Full Time Instructional Lab Associate-1	Up to 3 part time temporary Instructional Lab Associates
1 year 2019-20	Dean 1)		Biology faculty 6	Biology faculty 22	Full Time Instructional Lab Associate-2	Up to 3 part time temporary Instructional Lab Associates
2 years 2020-21	Dean 1	Assistant Dean 1	Biology faculty 6	Biology faculty 23	Full Time Instructional Lab Associate-2	Up to 3 part time temporary Instructional Lab Associates
3 years 2021-22	Dean 1	Assistant Dean 1	Biology faculty 6	Biology faculty 24	Full Time Instructional Lab Associate-2	Up to 3 part time temporary Instructional Lab Associates

For the past three years, the Biology department has requested a second full time Instructional Lab Associate We will request that this year again. We will also request an additional Biology faculty member to help with our growing number of onsite classes, especially with anatomy, physiology, and cell and molecular biology.

Professional Development

Provide a description of the program's staff professional development participation over the past year. Include evidence that supports program constituents participating in new opportunities to meet the professional development needs of the program.

Table 2.2 Professional Development

Name (Title)	Professional Development	Outcome
Deborah C. Henry, M.D.	Western Neurosurgical Meeting Annual Meeting, Banff, Canada, Sep 9-11, 2017	Updates on medical treatments
Deborah C. Henry, M.D.	California Association of Neurological Surgeons Annual Meeting, San Diego, California	Updates on socioeconomics of the medical fields
Deborah C. Henry, M.D.	UCLA Spinal Injury Update, Santa Monica, California	Updates on spinal cord injury and treatment
Deborah C. Henry, M.D.	Guided Pathways Equity, Los Angeles, California, Jun4-5, 2018	Understanding equity and Community Colleges

Name (Title)	Professional Development	Outcome
Deborah C. Henry, M.D. Steve Fauce, Ph.D.	Summer Institute Coastline, July 20,2018	Protorio and Curriculum Updates
Deborah C. Henry, M.D.	ASCCC Fall Plenary, Nov 3-4, 2017	Updates on Academic Senates
Deborah C. Henry, M.D.	ASCCC Fall Curriculum Meeting, Nov 18, 2017	Updates on Curriculum
Deborah C. Henry, M.D.	ASCCC Area D Meeting, Oct. 14, 2017	Updates on Academic Senates
Daniel Salcedo, Ph.D.	CPR/AED training 12/9/2017	Pre-med Club assistance
David Camerini, Ph.D.	"Discovery of Yellow Fever Virus-Specific Epitopes for Development of an Accurate Serodiagnostic Assay	Awarded an NIH Small Business Innovative Research Grant with Antigen Discovery Inc. of Irvine CA
David Camerini, Ph.D.	1. Galvis A, Fisher H, Fan HY and Camerini D: Analysis of the 5' End of the HIV-1 Genome During the Initial Stages of Infection. Journal of Virology 91, e01377-17, 2017. https://doi.org/10.1128/JVI.01377-17. 2. Chang HH, Huber RG, Bond PJ, Grad YH, Camerini D, Maurer-Stroh S, Lipsitch M: Systematic analysis of protein identity between Zika virus and other arthropod-borne viruses. Bulletin of the World Health Organization. 2017, 95(7):517-525I. doi: 10.2471/BLT.16.182105.	Published two peer-reviewed papers in scientific journals
David Camerini, Ph.D.	1. Discovery of Arbovirus-Specific Epitopes for Development of Accurate Serodiagnostic Assays. K Trappl, A Teng, J Pablo, C Hung, A Randall, J Campo, X Liang, J Bethony, A Chang, H-H Chang, M Lipsitch and D Camerini 2. A Pan-HIV Protein Microarray for Development of an HIV Incidence Assay and Characterization of the Antibody Response to HIV Infection. A Teng, J Pablo, C Hung, A Randall, K Trappl, J Campo, C Pilcher, A Welte, G Murphy, X Liang and D Camerini	Presented two research posters at the American Society of Tropical Medicine and Hygiene Meeting, Baltimore, MD November 2017
David Camerini, Ph.D.	Participated in an NIH Scientific Review Group Meeting	Non-HIV Microbial Diagnostics and Detection, Food Safety, Sterilization/Disinfection and Bioremediation, Chicago, IL June 28-29, 2018
Tanya Murray, PhD	Attended OCC Sailing School to learn navigation, boat safety, and basic powerboating skills.	Address these topics with expertise and knowledge in MRSC100L

Section 3: Facilities Planning

Currently we have four biology labs across three campuses. We have two at Newport Beach Center, one at Le-Jao Center, and one at Garden Grove Center. Because the Garden Grove and Le-Jao Center only have one lab each, this makes it difficult for the science or health science student to take more than one class at one campus. This also increases the work load and cost for travel on faculty and our lone instructional lab associate. This also increases the biohazard at three campuses.

1.) Garden Grove Lab Center: Ideally, we would have an additional laboratory space at the Garden Grove campus where students could take Anatomy and Physiology classes. Having an up-to-date laboratory, with two doors for safety (as the Le-Jao lab has only one) and a prep area (as the Le-Jao has none), would alleviate some of the additional work and travel time for faculty, staff, and students. If there is enough room, additional faculty offices could be made at Garden Grove as well.

Forward Strategy

GARDEN GROVE LAB CENTER

What college goal does the Garden Grove Center Lab Center support?

- Instructional and Programmatic Excellence- Create two centers for the Health Sciences and Science majors
- Access and Student Support
- Student Retention and Persistence
- Culture of Evidence, Planning, Innovation, and Change
- Fiscal Stewardship, Scalability, and Sustainability-much easier to manage two centers than three

What Educational Master Plan objective does the Garden Grove Lab Center support? Select all that apply

- Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.
- Provide universal access to student service and support programs.
- Strengthen post-Coastline outcomes (e.g., transfer to Universities and Health Care Programs).
- Explore and enter new fields of study (e.g Health Science Certificate, ADTs in the Sciences).
- Foster and sustain industry connections and expand external funding sources (e.g., STEM grants, Hoag Scholars Program) to facilitate programmatic advancement.
- Strengthen community engagement (e.g., student life, alumni relations, and academic alliances).
- Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports the labs at the Garden Grove Center? Select all that apply

- Internal Research (Student achievement, program performance)

TIMELINE: 3-5 years

2.) CADAVER LAB: Some students, as part of their application process for transfer to degree programs, require access to a human cadaver. Having a human cadaver program would enhance the Health Science students experience, meet the needs of the transfer student requirements, and may eliminate the need for the dissection of cats (which has become increasingly difficult as there is a shortage). Also, as one student put it, this is a Human Anatomy class, not a Cat Anatomy class. Attached is the proposal for building the cadaver lab. Below is the data from our 5-year Program Review.

Academic Year	2013-2014					
Semester	Summer		Fall		Spring	
CourseID	Sections	Enrollment	Sections	Enrollment	Sections	Enrollment
BIOL 210	0	0	4	103	3	84
BIOL 220	2	50	7	195	6	173
BIOL 225	2	60	5	126	3	81
CHEM 110	1	62	4	137	3	135
CHEM 110L	2	63	5	136	4	135
CHEM 180	1	32	2	78	2	85
CHEM 180L	1	32	3	77	3	84
Total by COLUMNS	9	299	30	852	24	777

Academic Year	2014-2015					
Semester	Summer		Fall		Spring	
CourseID	Sections	Enrollment	Sections	Enrollment	Sections	Enrollment
BIOL 210	0	0	3	86	3	85
BIOL 220	2	61	7	202	7	188
BIOL 225	1	33	4	99	4	113
CHEM 110	1	70	5	146	6	157
CHEM 110L	2	71	0	0	0	0
CHEM 180	1	31	2	80	2	80
CHEM 180L	1	32	3	78	3	78
Total by COLUMNS	8	298	24	691	25	701

Academic Year	2015-2016					
Semester	Summer		Fall		Spring	
CourseID	Sections	Enrollment	Sections	Enrollment	Sections	Enrollment
BIOL 210	0	0	4	97	4	102
BIOL 220	4	103	8	220	7	191
BIOL 225	3	81	5	126	5	145
CHEM 110	3	116	5	148	6	182

CHEM 110L	0	0	0	0	0	0
CHEM 180	2	60	2	70	2	82
CHEM 180L	2	58	3	67	3	80
Total by COLUMNS	14	418	27	728	27	782

Academic Year	2016-2017					
Semester	Summer		Fall		Spring	
CourseID	Sections	Enrollment	Sections	Enrollment	Sections	Enrollment
BIOL 210	0	0	5	135	5	130
BIOL 220	2	67	7	194	8	233
BIOL 225	2	54	5	116	5	137
CHEM 110	3	76	5	105	6	166
CHEM 110L	0	0	0	0	0	0
CHEM 180	2	59	2	59	2	58
CHEM 180L	2	53	2	56	2	52
Total by COLUMNS	11	309	26	665	28	776

From Summer 2013 to Spring 2017, we have served **7,296** students in the Health Science Certificate courses. Of these students, **1,867** have taken Bio 220 Human Anatomy.

CADAVER LAB

What college goal does the Cadaver Lab support?

- Student Success, Completion, and Achievement
- Instructional and Programmatic Excellence
- Access and Student Support
- Student Retention and Persistence
- Culture of Evidence, Planning, Innovation, and Change
- Partnerships and Community Engagement
- Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the Cadaver Lab support?

- Strengthen post-Coastline outcomes (e.g., transfer into Health Care fields/schools).
- Explore and enter new fields of study (e.g., Health Care Fields).

What evidence supports this initiative? Select all that apply

- Internal Research (Student requests as a need for entry into certain Health Care schools, specifically occupational therapy; enhance onsite learning)
- Learning Outcome (SLO/PSLO) assessment

TIMELINE: Less than one year, dependent on funding

Section 4: Technology Planning

Technology Assessment: Current Needs:

Technology is utilized in our Cell and Molecular Biology, Diversity of Organisms, Microbiology, Physiology and Work-Study Programs. Current needs are

1. Statistical Analysis Package-under $1000; allows students to analyze research projects (carried over from 2017-2018). Need to see if this is available through District purchasing ((This is left over from last program review)
2. Lab laptop for Work Based Learning, and major's biology students and student advisor use. This will house the statistical program and 3D modeling programs
3. 3D Printer-$3000-allows students to create prosthetic limbs and models; can be shared with Art Department (carried over from 2017-2018). May also use this to print anatomical models. (This is left over from last 2 program reviews)
4. Four Biopac units (two for Le-Jao and two for Newport Beach Center) to replace broken units.
5. Investigate technology needed and costs for a nursing program.

EQUIPMENT Needs:

Equipment is heavily needed for our Microbiology program. Current needs:

1. Peristaltic Pump-$3000-allow us to prepare microbiological cultures and decrease the need for constant pipetting (may be approved on last year's budget)
2. Incubator for BIOL 210-this will allow us to have 3 sections of BIOL 210 (Microbiology) at the Newport Beach Campus.
3. Refrigerator for BIOL 210-this will allow us to have 3 sections of BIOL 210 (Microbiology) at the Newport Beach Campus.
4. Six additional microscopes-to aid our students as our section numbers increase and as the microscopes age and need replaced.

Additional: Current Needs

1. Laundry service for microbiology lab coats-cost TBD

Consumables Assessment: Current Needs

Microbiology - GGC	$	16,295.49
Microbiology - NBC	$	16,960.89

Biology	$	3,120.33
Anatomy & Physiology	$	28,930.55
Service Contracts	$	6,700.00
Biology Total	$	72,007.26

Forward Strategy

What college goal does Technology Planning/Equipment/Consumables/Service Contracts Planning support? Select one

- Student Success, Completion, and Achievement
- Instructional and Programmatic Excellence
- Access and Student Support
- Student Retention and Persistence
- Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does Technology Planning/Equipment/Consumables/Service Contracts Planning support? Select all that apply

- Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.
- Provide universal access to student service and support programs.
- Strengthen post-Coastline outcomes (e.g., transfer, job placement).
- Explore and enter new fields of study (e.g., new programs, bachelor's degrees).
- Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.
- Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).
- Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports Technology Planning/Equipment/Consumables/Service Contracts Planning? Select all that apply

- Internal Research (Student achievement, program performance)
- External Research (Academic literature, market assessment, audit findings, compliance mandates-See Attachment on Job Analysis)

2018-2019
Annual Program Review

Physical Sciences
(Astronomy, Chemistry, Geology, Physics)

Table of Contents

Section 1: Program Planning: Astronomy

Internal Analysis

Productivity	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Astronomy Enrollment	898	939	932
College Student Resident FTES	6,073.20	6,343.35	5,928.76
Astronomy Resident FTES	80.82	83.53	84.69
Sections	8	8	10
Fill Rate	82.1%	79.4%	77.2%
WSCH/FTEF 595 Efficiency	1,239	1,256	1,095
FTEF/30	1.1	1.1	1.3
Extended Learning Enrollment	426	462	480

The percentage change in the number of Astronomy **enrollments** in 2016-17 showed a minimal difference from 2015-16 and a slight increase from 2014-15.

The percentage change in 2016-17 **resident FTES** in Astronomy credit courses showed a slight increase from 2015-2016 and a slight increase in comparison with resident FTES in 2014-15.

The percentage change in the number of **sections** in Astronomy courses in 2016-17 showed a substantial increase from 2015-16 and a substantial increase from the number of sections in 2014-15.

The percentage change in the **fill rate** in 2016-17 for Astronomy courses showed a slight decrease from 2015-16 and a moderate decrease in comparison with the fill rate in 2014-15.

The percentage change in the **WSCH/FTEF** ratio in Astronomy courses in 2016-17 showed a substantial decrease from 2015-16 and a substantial decrease from 2014-15.

The percentage change in the **FTEF/30** ratio for Astronomy courses in 2016-17 showed a substantial increase from 2015-16 and a substantial increase in comparison with the FTEF/30 ratio in 2014-15.

There was a slight increase in the number of Astronomy **Extended Learning enrollments** in 2016-17 from 2015-16 and a substantial increase from 2014-15.

In spite of the decrease of the WSCH/FTEF ratio from 1239 to 1095 from 2015 to 2017, this ratio remains more than double the target value of 525.

We experimented with adding additional 8-week ASTR 100 sections beginning 2016-2017. This has resulted in a slight decrease in the fill rates and a reduction in the success rates for students taking those sections, especially in the mid 8-week section. We will reduce the 8-week offerings beginning SP 19.

Comparison of Enrollment Trends	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Astronomy Enrollment	898	939	932

Modality	2014-15	2015-16	2016-17
Traditional	0.0%	1.4%	5.5%
Online	28.0%	28.4%	32.8%
Hybrid	6.2%	1.1%	0.0%
Correspondence (Cable, Telecourse, Other DL)	65.8%	69.1%	61.7%

Gender	2014-15	2015-16	2016-17
Female	23.9%	21.6%	23.6%
Male	75.1%	77.2%	74.2%
Unknown	1.0%	1.2%	2.1%

Ethnicity	2014-15	2015-16	2016-17
African American	13.1%	10.8%	12.4%
American Indian/AK Native	1.7%	1.4%	1.5%
Asian	8.6%	10.3%	9.7%
Hispanic	23.4%	21.8%	25.8%
Pacific Islander/HI Native	0.7%	0.4%	0.4%
White	37.6%	36.8%	34.8%
Multi-Ethnicity	13.7%	16.9%	14.5%
Other/Unknown	1.2%	1.5%	1.0%

Age Group	2014-15	2015-16	2016-17
19 or Less	7.6%	6.1%	10.5%
20 to 24	20.3%	19.7%	14.5%
25 to 29	15.5%	16.5%	14.3%
30 to 34	16.3%	17.8%	17.8%
35 to 39	12.2%	12.7%	15.7%
40 to 49	18.5%	17.5%	18.3%
50 and Older	9.7%	9.8%	8.9%

Astronomy courses made up 1.5% of all state-funded enrollment for 2016-17. The percentage difference in Astronomy course **enrollment** in 2016-17 showed a substantial decrease from 2015-16 and a substantial decrease from 2014-15. Enrollment in Astronomy during 2016-17 showed 5.5% of courses were taught **traditional (face-to-fac**e), 32.8% were taught **online**, 0.0% were taught in the **hybrid** modality, and 61.7% were taught in the **correspondence (cable, telecourse, and other distance learning)** modality.

In 2016-17, Astronomy enrollment consisted of 23.6% **female**, 74.2% **male**, and 2.1% students of **unknown** gender. In 2016-17, Astronomy enrollment consisted of 12.4% **African American** students, 1.5% **American Indian/AK Native** students, 9.7% **Asian** students, 25.8% **Hispanic** students, 0.4% **Pacific Islander/HI Native** students, 34.8% **White** students, 14.5% **multi-ethnic** students, and 1.0% students of **other** or **unknown** ethnicity. The age breakdown for 2016-17 enrollments in Astronomy revealed 10.5% aged **19 or less**, 14.5% aged **20 to 24**, 14.3% aged **25 to 29**, 17.8% aged **30 to 34**, 15.7% aged **35 to 39**, 18.3% aged **40 to 49**, and 8.9% aged **50 and older**.

Awards	2014-15	2015-16	2016-17
College Awarded Degrees	1,882	2,109	2,220
Astronomy Degrees	0	0	0
College Awarded Certificates	748	644	602
Astronomy Certificates	0	0	0

The percentage change in the number of Astronomy **degrees** awarded in 2016-17 showed no comparative data from 2015-16 and no comparative data from the number of degrees awarded in 2014-15.

The percentage change in the number of Astronomy **certificates** awarded in 2016-17 showed no comparative data from 2015-16 and showed no comparative data in comparison with the number of certificates awarded in 2014-15.

Devine Comments:

There are no degrees or certificates awarded in Astronomy.

Comparison of Success Rates	2014-15	2015-16	2016-17
College State-Funded Success Rate	65.4%	66.7%	68.1%
College Institution Set Standard Success Rate	55.3%	55.4%	56.7%
Astronomy Success Rate	61.3%	66.1%	73.1%

Modality	2014-15	2015-16	2016-17
Traditional	-	69.2%	74.5%
Online	50.6%	55.7%	60.8%
Hybrid	44.4%	70.0%	-
Correspondence (Cable, Telecourse, Other DL)	67.3%	70.2%	79.5%

Gender	2014-15	2015-16	2016-17
Female	53.8%	58.0%	59.5%
Male	64.1%	68.4%	77.5%
Unknown	25.0%	63.6%	70.0%

Ethnicity	2014-15	2015-16	2016-17
African American	54.3%	59.4%	62.1%
American Indian/AK Native	73.3%	46.2%	78.6%
Asian	58.4%	69.5%	76.7%
Hispanic	62.7%	66.7%	74.6%
Pacific Islander/HI Native	50.0%	75.0%	75.0%
White	65.8%	71.3%	79.0%
Multi-Ethnicity	53.3%	56.0%	65.9%
Other/Unknown	72.7%	85.7%	22.2%

Age Group	2014-15	2015-16	2016-17
19 or Less	48.5%	63.2%	74.5%
20 to 24	48.6%	54.6%	61.5%
25 to 29	56.1%	62.3%	66.2%
30 to 34	72.6%	65.9%	76.5%
35 to 39	71.8%	68.6%	78.1%
40 to 49	68.5%	79.3%	82.5%
50 and Older	59.8%	70.7%	66.3%

The percentage difference in the **course success rate** in Astronomy courses in 2016-17 showed a substantial increase from 2015-16 and a substantial increase from 2014-15. When comparing the percentage point difference in the Astronomy 2016-17 course success rate to the College's overall success average* (66.6%) and the institution-set standard* (56.6%) for credit course success, the Astronomy **course success rate** was slightly higher than the **college average** and substantially higher than the **institution-set standard*** (56.6%) for credit course success. This is especially gratifying, given the switch to CANVAS based offerings and the resulting increase in course rigor and structure allowed by CANVAS.

When comparing the percentage point difference between instructional modalities to the overall Astronomy success rate for 2016-17, the success rate was slightly higher for **traditional (face-to-face)** Astronomy courses, substantially lower for **online** courses, not applicable for **hybrid courses**, and moderately higher for **correspondence (cable, telecourse, and other distance learning)** courses.

When comparing the percentage point difference between genders to the overall Astronomy success rate for 2016-17, the success rate was substantially lower for **female** students in Astronomy courses, slightly higher for **male** students, and slightly lower for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Astronomy success rate for 2016-17, the success rate was substantially lower for **African American** students in Astronomy courses, moderately higher for **American Indian/AK Native** students, slightly higher for **Asian** students, slightly higher for **Hispanic** students, slightly higher for **Pacific Islander/HI Native** students, moderately higher for **White** students, moderately lower for **multi-ethnic** students, and substantially lower for students of **other** or **unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Astronomy success rate for 2016-17, the success rate was slightly higher for students aged **19 or less** in Astronomy courses, substantially lower for students aged **20 to 24**, moderately lower for students aged **25 to 29**, slightly higher for students aged **30 to 34**, moderately higher for students aged **35 to 39**, moderately higher for students aged **40 to 49**, and moderately lower for students aged **50 and older**.

Comparison of Retention Rates	2014-15	2015-16	2016-17
College State-Funded Retention Rate	85.7%	86.1%	85.8%
College Institution Set Standard Retention Rate	70.1%	69.9%	73.2%
Astronomy Retention Rate	75.6%	79.3%	82.2%

Modality	2014-15	2015-16	2016-17
Traditional	-	69.2%	92.2%
Online	65.2%	73.1%	74.5%
Hybrid	64.8%	90.0%	-
Correspondence (Cable, Telecourse, Other DL)	80.9%	81.8%	85.4%

Gender	2014-15	2015-16	2016-17
Female	70.3%	75.5%	75.5%
Male	77.7%	80.2%	84.4%
Unknown	37.5%	81.8%	80.0%

Ethnicity	2014-15	2015-16	2016-17
African American	66.4%	79.2%	74.1%
American Indian/AK Native	80.0%	84.6%	78.6%
Asian	72.7%	78.9%	83.3%
Hispanic	79.4%	78.4%	83.3%
Pacific Islander/HI Native	100.0%	75.0%	100.0%
White	76.8%	82.3%	86.4%
Multi-Ethnicity	73.0%	72.3%	78.5%
Other/Unknown	90.9%	92.9%	44.4%

Age Group	2014-15	2015-16	2016-17
19 or Less	75.0%	77.2%	91.8%
20 to 24	71.2%	74.9%	73.3%
25 to 29	70.5%	72.1%	78.2%
30 to 34	80.1%	81.4%	85.5%
35 to 39	81.8%	83.1%	84.9%
40 to 49	79.4%	87.2%	84.8%
50 and Older	70.1%	78.3%	74.7%

The percentage difference in the **retention rate** in Astronomy courses in 2016-17 showed a slight increase from 2015-16 and a moderate increase from 2014-15. When comparing the percentage point difference in the Astronomy 2016-17 retention rate to the College's overall retention average* (85.8%) and the institution-set standard* (73.2%) for credit course success, the Astronomy **retention rate** was slightly lower than the **college average** and moderately higher than the **institution-set standard*** for credit course success.

When comparing the percentage point difference between instructional modalities to the overall Astronomy retention rate for 2016-17, the retention rate was moderately higher for **traditional (face-to-face)** Astronomy courses, moderately lower for **online** courses, not applicable for **hybrid courses**, and slightly higher for **correspondence (cable, telecourse, and other distance learning)** courses.

When comparing the percentage point difference between genders to the overall Astronomy retention rate for 2016-17, the retention rate was moderately lower for **female** students in Astronomy courses, slightly higher for **male** students, and slightly lower for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Astronomy retention rate for 2016-17, the retention rate was moderately lower for **African American** students in Astronomy courses, slightly lower for **American Indian/AK Native** students, slightly higher for **Asian** students, slightly higher for **Hispanic** students, substantially higher for **Pacific Islander/HI Native** students, slightly higher for **White** students, slightly lower for **multi-ethnic** students, and substantially lower for students of **other or unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Astronomy retention rate for 2016-17, the retention rate was moderately higher for students aged **19 or less** in Astronomy courses, moderately lower for students aged **20 to 24**, slightly lower for students aged **25 to 29**, slightly higher for students aged **30 to 34**, slightly higher for students aged **35 to 39**, slightly higher for students aged **40 to 49**, and moderately lower for students aged **50 and older**.

*Note: College term success and retention averages and institution-set standards are computed annually and recorded in the college Key Performance Indicators (KPI) Scorecard.

Data Source: Banner Student Information System

Calculation Categories

Language	**Range**
Minimal to No Difference	< 1.0%
Slight Increase/Decrease	Between 1.0% and 5.0%
Moderate Increase/Decrease	Between 5.1% and 10.0%
Substantial Increase/Decrease	> 10.0%

Section 1: Program Planning: Chemistry

Internal Analysis

Productivity	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Chemistry Enrollment	1,348	1,486	1,229
College Student Resident FTES	6,073.20	6,343.35	5,928.76
Chemistry Resident FTES	212.30	239.10	192.66
Sections	52	55	50
Fill Rate	87.5%	86.8%	87.3%
WSCH/FTEF 595 Efficiency	480	491	430
FTEF/30	7.4	8.3	7.7
Extended Learning Enrollment	85	72	60

The percentage change in the number of Chemistry **enrollments** in 2016-17 showed a substantial decrease from 2015-16 and a moderate decrease from 2014-15.

The percentage change in 2016-17 **resident FTES** in Chemistry credit courses showed a substantial decrease from 2015-2016 and a moderate decrease in comparison with resident FTES in 2014-15.

The percentage change in the number of **sections** in Chemistry courses in 2016-17 showed a moderate decrease from 2015-16 and a slight decrease from the number of sections in 2014-15.

The percentage change in the **fill rate** in 2016-17 for Chemistry courses showed a minimal difference from 2015-16 and a minimal difference in comparison with the fill rate in 2014-15.

The percentage change in the **WSCH/FTEF** ratio in Chemistry courses in 2016-17 showed a substantial decrease from 2015-16 and a substantial decrease from 2014-15. This may be due to the addition of CHEM 220/225, which had low enrollment

The percentage change in the **FTEF/30** ratio for Chemistry courses in 2016-17 showed a moderate decrease from 2015-16 and a slight increase in comparison with the FTEF/30 ratio in 2014-15.

There was a substantial decrease in the number of Chemistry **Extended Learning enrollments** in 2016-17 from 2015-16 and a substantial decrease from 2014-15.

Comparison of Enrollment Trends	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Chemistry Enrollment	1,348	1,486	1,229

Modality	2014-15	2015-16	2016-17
Traditional	67.1%	65.2%	66.2%
Online	21.1%	21.4%	24.5%
Hybrid	8.5%	13.4%	9.4%
Correspondence (Cable, Telecourse, Other DL)	3.2%	0.0%	0.0%

Gender	2014-15	2015-16	2016-17
Female	60.2%	59.1%	59.4%
Male	38.1%	39.7%	39.7%
Unknown	1.7%	1.2%	0.9%

Ethnicity	2014-15	2015-16	2016-17
African American	2.8%	2.0%	1.8%
American Indian/AK Native	0.0%	0.2%	0.0%
Asian	45.0%	48.3%	47.6%
Hispanic	9.6%	9.4%	10.0%
Pacific Islander/HI Native	0.1%	0.1%	0.4%
White	29.4%	27.7%	26.4%
Multi-Ethnicity	11.9%	10.8%	13.0%
Other/Unknown	1.1%	1.7%	0.8%

Age Group	2014-15	2015-16	2016-17
19 or Less	14.4%	13.5%	14.1%
20 to 24	40.4%	42.4%	39.8%
25 to 29	22.3%	23.3%	27.1%
30 to 34	11.9%	10.4%	11.6%
35 to 39	5.3%	5.3%	2.0%
40 to 49	3.6%	3.0%	3.7%
50 and Older	2.0%	2.1%	1.7%

Chemistry courses made up 2.0% of all state-funded enrollment for 2016-17. The percentage difference in Chemistry course **enrollment** in 2016-17 showed a moderate decrease from 2015-16 and a moderate decrease from 2014-15. Enrollment in Chemistry during 2016-17 showed 66.2% of courses were taught **traditional (face-to-fac**e), 24.5% were taught **online**, 9.4% were taught in the **hybrid** modality, and 0.0% were taught in the **correspondence (cable, telecourse, and other distance learning)** modality.

In 2016-17, Chemistry enrollment consisted of 59.4% **female**, 39.7% **male**, and 0.9% students of **unknown** gender. In 2016-17, Chemistry enrollment consisted of 1.8% **African American** students, 0.0% **American Indian/AK Native** students, 47.6% **Asian** students, 10.0% **Hispanic** students, 0.4% **Pacific Islander/HI Native** students, 26.4% **White** students, 13.0% **multi-ethnic** students, and 0.8% students of **other** or **unknown** ethnicity. The age breakdown for 2016-17 enrollments in Chemistry revealed 14.1% aged **19 or less**, 39.8% aged **20 to 24**, 27.1% aged **25 to 29**, 11.6% aged **30 to 34**, 2.0% aged **35 to 39**, 3.7% aged **40 to 49**, and 1.7% aged **50 and older**.

Awards	2014-15	2015-16	2016-17
College Awarded Degrees	1,882	2,109	2,220
Chemistry Degrees	0	0	0
College Awarded Certificates	748	644	602
Chemistry Certificates	0	0	0

The percentage change in the number of Chemistry **degrees** awarded in 2016-17 showed no comparative data from 2015-16 and no comparative data from the number of degrees awarded in 2014-15.

The percentage change in the number of Chemistry **certificates** awarded in 2016-17 showed no comparative data from 2015-16 and showed no comparative data in comparison with the number of certificates awarded in 2014-15. There are no Chemistry degrees or certificates offered at this time.

Comparison of Success Rates	2014-15	2015-16	2016-17
College State-Funded Success Rate	65.4%	66.7%	68.1%
College Institution Set Standard Success Rate	55.3%	55.4%	56.7%
Chemistry Success Rate	82.3%	78.5%	80.2%

Modality	2014-15	2015-16	2016-17
Traditional	83.2%	79.5%	78.7%
Online	80.9%	75.6%	82.7%
Hybrid	78.3%	78.4%	84.3%
Correspondence (Cable, Telecourse, Other DL)	-	-	-

Gender	2014-15	2015-16	2016-17
Female	80.5%	77.6%	80.5%
Male	84.7%	80.7%	79.7%
Unknown	86.4%	50.0%	81.8%

Ethnicity	2014-15	2015-16	2016-17
African American	75.0%	69.0%	72.7%
American Indian/AK Native	-	66.7%	-
Asian	85.1%	81.0%	83.6%
Hispanic	67.2%	71.0%	73.2%
Pacific Islander/HI Native	100.0%	100.0%	60.0%
White	83.4%	79.5%	80.2%
Multi-Ethnicity	81.1%	72.7%	74.4%
Other/Unknown	92.9%	84.0%	90.0%

Age Group	2014-15	2015-16	2016-17
19 or Less	82.1%	78.1%	82.1%
20 to 24	83.9%	78.8%	76.3%
25 to 29	78.5%	75.2%	86.2%
30 to 34	84.2%	79.9%	78.3%
35 to 39	86.4%	86.1%	60.0%
40 to 49	73.9%	81.8%	84.4%
50 and Older	84.0%	80.6%	90.5%

The percentage difference in the **course success rate** in Chemistry courses in 2016-17 showed a slight increase from 2015-16 and a slight decrease from 2014-15. When comparing the percentage point difference in the Chemistry 2016-17 course success rate to the College's overall success average* (66.6%) and the institution-set standard* (56.6%) for credit course success, the Chemistry **course success rate** was substantially higher than the **college average** and substantially higher than the **institution-set standard*** (56.6%) for credit course success.

When comparing the percentage point difference between instructional modalities to the overall Chemistry success rate for 2016-17, the success rate was slightly lower for **traditional (face-to-face)** Chemistry courses, slightly higher for **online** courses, slightly higher for **hybrid courses**, and not applicable for **correspondence (cable, telecourse, and other distance learning)** courses.

When comparing the percentage point difference between genders to the overall Chemistry success rate for 2016-17, the success rate was minimally different for **female** students in Chemistry courses, minimally different for **male** students, and slightly higher for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Chemistry success rate for 2016-17, the success rate was moderately lower for **African American** students in Chemistry courses, not applicable for **American Indian/AK Native** students, slightly higher for **Asian** students, moderately lower for **Hispanic** students, substantially lower for **Pacific Islander/HI Native** students, minimally different for **White** students, moderately lower for **multi-ethnic** students, and moderately higher for students of **other** or **unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Chemistry success rate for 2016-17, the success rate was slightly higher for students aged **19 or less** in Chemistry courses, slightly lower for students aged **20 to 24**, moderately higher for students aged **25 to 29**, slightly lower for students aged **30 to 34**, substantially lower for students aged **35 to 39**, slightly higher for students aged **40 to 49**, and substantially higher for students aged **50 and older**.

Comparison of Retention Rates	2014-15	2015-16	2016-17
College State-Funded Retention Rate	85.7%	86.1%	85.8%
College Institution Set Standard Retention Rate	70.1%	69.9%	73.2%
Chemistry Retention Rate	89.3%	86.7%	87.7%

Modality	2014-15	2015-16	2016-17
Traditional	88.4%	86.9%	85.7%
Online	90.5%	86.3%	92.0%
Hybrid	93.0%	86.4%	90.4%
Correspondence (Cable, Telecourse, Other DL)	-	-	-

Gender	2014-15	2015-16	2016-17
Female	87.5%	85.4%	87.3%
Male	91.6%	89.4%	88.3%
Unknown	95.5%	61.1%	90.9%

Ethnicity	2014-15	2015-16	2016-17
African American	91.7%	89.7%	86.4%
American Indian/AK Native	-	66.7%	-
Asian	89.9%	87.4%	89.6%
Hispanic	85.7%	85.5%	87.8%
Pacific Islander/HI Native	100.0%	100.0%	60.0%
White	89.3%	86.6%	86.1%
Multi-Ethnicity	87.8%	85.1%	84.4%
Other/Unknown	100.0%	84.0%	100.0%

Age Group	2014-15	2015-16	2016-17
19 or Less	93.5%	92.0%	91.9%
20 to 24	89.8%	87.4%	85.9%
25 to 29	85.1%	80.8%	90.4%
30 to 34	90.1%	85.1%	85.3%
35 to 39	90.9%	91.1%	60.0%
40 to 49	80.4%	90.9%	91.1%
50 and Older	100.0%	93.5%	95.2%

The percentage difference in the **retention rate** in Chemistry courses in 2016-17 showed a slight increase from 2015-16 and a slight decrease from 2014-15. When comparing the percentage point difference in the Chemistry 2016-17 retention rate to the College's overall retention average* (85.8%) and the institution-set standard* (73.2%) for credit course success, the Chemistry **retention rate** was slightly higher than the **college average** and substantially higher than the **institution-set standard*** for credit course success.

When comparing the percentage point difference between instructional modalities to the overall Chemistry retention rate for 2016-17, the retention rate was slightly lower for **traditional (face-to-face)** Chemistry courses, slightly higher for **online** courses, slightly higher for **hybrid courses**, and not applicable for **correspondence (cable, telecourse, and other distance learning)** courses. Retention rates for online courses are typically lower than traditional formats, but the opposite holds for Chemistry.

When comparing the percentage point difference between genders to the overall Chemistry retention rate for 2016-17, the retention rate was minimally different for **female** students in Chemistry courses, minimally different for **male** students, and slightly higher for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Chemistry retention rate for 2016-17, the retention rate was slightly lower for **African American** students in Chemistry courses, not applicable for **American Indian/AK Native** students, slightly higher for **Asian** students, minimally different for **Hispanic** students, substantially lower for **Pacific Islander/HI Native** students, slightly lower for **White** students, slightly lower for **multi-ethnic** students, and substantially higher for students of **other or unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Chemistry retention rate for 2016-17, the retention rate was slightly higher for students aged **19 or less** in Chemistry courses, slightly lower for students aged **20 to 24**, slightly higher for students aged **25 to 29**, slightly lower for students aged **30 to 34**, substantially lower for students aged **35 to 39**, slightly higher for students aged **40 to 49**, and moderately higher for students aged **50 and older**.

*Note: College term success and retention averages and institution-set standards are computed annually and recorded in the college Key Performance Indicators (KPI) Scorecard.

Data Source: Banner Student Information System

Calculation Categories

Language	**Range**
Minimal to No Difference	< 1.0%
Slight Increase/Decrease	Between 1.0% and 5.0%
Moderate Increase/Decrease	Between 5.1% and 10.0%
Substantial Increase/Decrease	> 10.0%

Section 1: Program Planning: Geology

Internal Analysis

Productivity	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Geology Enrollment	1,432	1,473	1,470
College Student Resident FTES	6,073.20	6,343.35	5,928.76
Geology Resident FTES	132.20	136.63	134.92
Sections	26	29	30
Fill Rate	75.4%	68.4%	69.7%
WSCH/FTEF 595 Efficiency	850	737	717
FTEF/30	2.6	3.1	3.2
Extended Learning Enrollment	285	277	290

The percentage change in the number of Geology **enrollments** in 2016-17 showed a minimal difference from 2015-16 and a slight increase from 2014-15.

The percentage change in 2016-17 **resident FTES** in Geology credit courses showed a slight decrease from 2015-2016 and a slight increase in comparison with resident FTES in 2014-15.

The percentage change in the number of **sections** in Geology courses in 2016-17 showed a slight increase from 2015-16 and a substantial increase from the number of sections in 2014-15.

The percentage change in the **fill rate** in 2016-17 for Geology courses showed a slight increase from 2015-16 and a moderate decrease in comparison with the fill rate in 2014-15.

The percentage change in the **WSCH/FTEF** ratio in Geology courses in 2016-17 showed a slight decrease from 2015-16 and a substantial decrease from 2014-15.

The percentage change in the **FTEF/30** ratio for Geology courses in 2016-17 showed a slight increase from 2015-16 and a substantial increase in comparison with the FTEF/30 ratio in 2014-15.

There was a slight increase in the number of Geology **Extended Learning enrollments** in 2016-17 from 2015-16 and a slight increase from 2014-15.

Comparison of Enrollment Trends	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Geology Enrollment	1,432	1,473	1,470

Modality	2014-15	2015-16	2016-17
Traditional	0.0%	1.1%	1.4%
Online	59.4%	61.7%	62.7%
Hybrid	2.3%	2.7%	4.3%
Correspondence (Cable, Telecourse, Other DL)	38.3%	34.5%	31.6%

Gender	2014-15	2015-16	2016-17
Female	36.7%	43.4%	41.9%
Male	62.1%	55.1%	56.2%
Unknown	1.2%	1.6%	1.9%

Ethnicity	2014-15	2015-16	2016-17
African American	9.7%	10.5%	11.5%
American Indian/AK Native	0.7%	1.2%	0.7%
Asian	13.3%	11.7%	11.6%
Hispanic	18.4%	19.0%	20.0%
Pacific Islander/HI Native	0.5%	0.6%	0.5%
White	40.6%	40.5%	37.6%
Multi-Ethnicity	14.7%	15.2%	16.6%
Other/Unknown	2.1%	1.4%	1.5%

Age Group	2014-15	2015-16	2016-17
19 or Less	8.6%	9.7%	10.8%
20 to 24	25.1%	27.9%	29.9%
25 to 29	18.5%	15.5%	14.2%
30 to 34	14.3%	13.8%	12.9%
35 to 39	11.0%	10.0%	11.0%
40 to 49	13.8%	16.0%	11.8%
50 and Older	8.6%	7.2%	9.4%

Geology courses made up 2.4% of all state-funded enrollment for 2016-17. The percentage difference in Geology course **enrollment** in 2016-17 showed a minimal difference from 2015-16 and a minimal difference from 2014-15. Enrollment in Geology during 2016-17 showed 1.4% of courses were taught **traditional (face-to-fac**e), 62.7% were taught **online**, 4.3% were taught in the **hybrid** modality, and 31.6% were taught in the **correspondence (cable, telecourse, and other distance learning)** modality.

In 2016-17, Geology enrollment consisted of 41.9% **female**, 56.2% **male**, and 1.9% students of **unknown** gender. In 2016-17, Geology enrollment consisted of 11.5% **African American** students, 0.7% **American Indian/AK Native** students, 11.6% **Asian** students, 20.0% **Hispanic** students, 0.5% **Pacific Islander/HI Native** students, 37.6% **White** students, 16.6% **multi-ethnic** students, and 1.5% students of **other** or **unknown** ethnicity. The age breakdown for 2016-17 enrollments in Geology revealed 10.8% aged **19 or less**, 29.9% aged **20 to 24**, 14.2% aged **25 to 29**, 12.9% aged **30 to 34**, 11.0% aged **35 to 39**, 11.8% aged **40 to 49**, and 9.4% aged **50 and older**.

Awards	2014-15	2015-16	2016-17
College Awarded Degrees	1,882	2,109	2,220
Geology Degrees	0	0	0
College Awarded Certificates	748	644	602
Geology Certificates	0	0	0

The percentage change in the number of Geology **degrees** awarded in 2016-17 showed no comparative data from 2015-16 and no comparative data from the number of degrees awarded in 2014-15.

The percentage change in the number of Geology **certificates** awarded in 2016-17 showed no comparative data from 2015-16 and showed no comparative data in comparison with the number of certificates awarded in 2014-15. There are no Geology degrees or certificates offered at this time.

Comparison of Success Rates	2014-15	2015-16	2016-17
College State-Funded Success Rate	65.4%	66.7%	68.1%
College Institution Set Standard Success Rate	55.3%	55.4%	56.7%
Geology Success Rate	70.8%	68.6%	73.5%

Modality	2014-15	2015-16	2016-17
Traditional	-	68.8%	75.0%
Online	69.7%	73.3%	79.1%
Hybrid	66.7%	92.5%	74.6%
Correspondence (Cable, Telecourse, Other DL)	72.9%	58.5%	62.1%

Gender	2014-15	2015-16	2016-17
Female	71.4%	74.6%	78.2%
Male	70.4%	63.6%	70.5%
Unknown	76.5%	81.8%	53.6%

Ethnicity	2014-15	2015-16	2016-17
African American	48.9%	52.3%	64.5%
American Indian/AK Native	40.0%	66.7%	70.0%
Asian	78.4%	77.3%	78.9%
Hispanic	73.5%	58.4%	64.6%
Pacific Islander/HI Native	57.1%	66.7%	85.7%
White	73.1%	74.1%	79.7%
Multi-Ethnicity	71.9%	71.9%	73.8%
Other/Unknown	63.3%	65.0%	54.5%

Age Group	2014-15	2015-16	2016-17
19 or Less	71.5%	81.1%	84.3%
20 to 24	72.2%	69.3%	78.4%
25 to 29	68.9%	62.4%	71.8%
30 to 34	70.6%	66.0%	65.3%
35 to 39	70.9%	59.2%	69.6%
40 to 49	72.7%	72.8%	72.3%
50 and Older	67.5%	71.7%	65.2%

The percentage difference in the **course success rate** in Geology courses in 2016-17 showed a moderate increase from 2015-16 and a slight increase from 2014-15. When comparing the percentage point difference in the Geology 2016-17 course success rate to the College's overall success average* (66.6%) and the institution-set standard* (56.6%) for credit course success, the Geology **course success rate** was moderately higher than the **college average** and substantially higher than the **institution-set standard*** (56.6%) for credit course success. The success rates for the online sections is slightly higher than for the traditional

.

When comparing the percentage point difference between instructional modalities to the overall Geology success rate for 2016-17, the success rate was slightly higher for **traditional (face-to-face)** Geology courses, moderately higher for **online** courses, slightly higher for **hybrid courses**, and substantially lower for **correspondence (cable, telecourse, and other distance learning)** courses.

When comparing the percentage point difference between genders to the overall Geology success rate for 2016-17, the success rate was slightly higher for **female** students in Geology courses, slightly lower for **male** students, and substantially lower for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Geology success rate for 2016-17, the success rate was moderately lower for **African American** students in Geology courses, slightly lower for **American Indian/AK Native** students, moderately higher for **Asian** students, moderately lower for **Hispanic** students, substantially higher for **Pacific Islander/HI Native** students, moderately higher for **White** students, minimally different for **multi-ethnic** students, and substantially lower for students of **other** or **unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Geology success rate for 2016-17, the success rate was substantially higher for students aged **19 or less** in Geology courses, slightly higher for students aged **20 to 24**, slightly lower for students aged **25 to 29**, moderately lower for students aged **30 to 34**, slightly lower for students aged **35 to 39**, slightly lower for students aged **40 to 49**, and moderately lower for students aged **50 and older**.

Comparison of Retention Rates	2014-15	2015-16	2016-17
College State-Funded Retention Rate	85.7%	86.1%	85.8%
College Institution Set Standard Retention Rate	70.1%	69.9%	73.2%
Geology Retention Rate	86.9%	84.2%	86.5%

Modality	2014-15	2015-16	2016-17
Traditional	-	75.0%	90.0%
Online	84.9%	83.2%	88.0%
Hybrid	81.8%	97.5%	81.0%
Correspondence (Cable, Telecourse, Other DL)	90.2%	85.2%	84.3%

Gender	2014-15	2015-16	2016-17
Female	86.9%	84.5%	87.3%
Male	86.9%	83.7%	85.7%
Unknown	82.4%	90.9%	92.9%

Ethnicity	2014-15	2015-16	2016-17
African American	77.7%	85.0%	88.8%
American Indian/AK Native	100.0%	83.3%	100.0%
Asian	84.7%	87.2%	87.1%
Hispanic	90.5%	76.3%	85.4%
Pacific Islander/HI Native	71.4%	100.0%	100.0%
White	89.1%	87.7%	88.2%
Multi-Ethnicity	84.8%	81.0%	82.8%
Other/Unknown	80.0%	85.0%	68.2%

Age Group	2014-15	2015-16	2016-17
19 or Less	83.7%	88.8%	93.7%
20 to 24	85.3%	80.8%	86.3%
25 to 29	88.6%	81.0%	88.0%
30 to 34	87.7%	84.7%	83.2%
35 to 39	87.3%	84.4%	87.6%
40 to 49	87.9%	86.8%	86.7%
50 and Older	87.0%	90.6%	79.7%

The percentage difference in the **retention rate** in Geology courses in 2016-17 showed a slight increase from 2015-16 and minimal difference from 2014-15. When comparing the percentage point difference in the Geology 2016-17 retention rate to the College's overall retention average* (85.8%) and the institution-set standard* (73.2%) for credit course success, the Geology **retention rate** was minimally different than the **college average** and substantially higher than the **institution-set standard*** for credit course success.

When comparing the percentage point difference between instructional modalities to the overall Geology retention rate for 2016-17, the retention rate was slightly higher for **traditional (face-to-face)** Geology courses, slightly higher for **online** courses, moderately lower for **hybrid courses**, and slightly lower for **correspondence (cable, telecourse, and other distance learning)** courses.

When comparing the percentage point difference between genders to the overall Geology retention rate for 2016-17, the retention rate was minimally different for **female** students in Geology courses, minimally different for **male** students, and moderately higher for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Geology retention rate for 2016-17, the retention rate was slightly higher for **African American** students in Geology courses, substantially higher for **American Indian/AK Native** students, minimally different for **Asian** students, slightly lower for **Hispanic** students, substantially higher for **Pacific Islander/HI Native** students, slightly higher for **White** students, slightly lower for **multi-ethnic** students, and substantially lower for students of **other or unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Geology retention rate for 2016-17, the retention rate was moderately higher for students aged **19 or less** in Geology courses, minimally different for students aged **20 to 24**, slightly higher for students aged **25 to 29**, slightly lower for students aged **30 to 34**, slightly higher for students aged **35 to 39**, minimally different for students aged **40 to 49**, and moderately lower for students aged **50 and older**.

*Note: College term success and retention averages and institution-set standards are computed annually and recorded in the college Key Performance Indicators (KPI) Scorecard.

Data Source: Banner Student Information System

Calculation Categories

Language	**Range**
Minimal to No Difference	< 1.0%
Slight Increase/Decrease	Between 1.0% and 5.0%
Moderate Increase/Decrease	Between 5.1% and 10.0%
Substantial Increase/Decrease	> 10.0%

Section 1: Program Planning: Physics

Internal Analysis

Productivity	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Physics Enrollment	341	376	375
College Student Resident FTES	6,073.20	6,343.35	5,928.76
Physics Resident FTES	32.85	37.76	37.75
Sections	7	8	8
Fill Rate	74.5%	76.4%	76.4%
WSCH/FTEF 595 Efficiency	466	452	448
FTEF/30	1.2	1.4	1.4
Extended Learning Enrollment	100	86	98

The percentage change in the number of Physics **enrollments** in 2016-17 showed a minimal difference from 2015-16 and a moderate increase from 2014-15.

The percentage change in 2016-17 **resident FTES** in Physics credit courses showed a minimal difference from 2015-2016 and a substantial increase in comparison with resident FTES in 2014-15.

The percentage change in the number of **sections** in Physics courses in 2016-17 showed a minimal difference from 2015-16 and a substantial increase from the number of sections in 2014-15.

The percentage change in the **fill rate** in 2016-17 for Physics courses showed a minimal difference from 2015-16 and a slight increase in comparison with the fill rate in 2014-15.

The percentage change in the **WSCH/FTEF** ratio in Physics courses in 2016-17 showed a minimal difference from 2015-16 and a slight decrease from 2014-15.

The percentage change in the **FTEF/30** ratio for Physics courses in 2016-17 showed a minimal difference from 2015-16 and a substantial increase in comparison with the FTEF/30 ratio in 2014-15.

There was a substantial increase in the number of Physics **Extended Learning enrollments** in 2016-17 from 2015-16 and a slight decrease from 2014-15.

The majority of Physics courses are now taught by Adjuncts. New Adjunct Diego Gutierrez hired in SP 2017. New Adjunct Derek Bryant hired in SP 18.

Comparison of Enrollment Trends	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Physics Enrollment	341	376	375

Modality	2014-15	2015-16	2016-17
Traditional	0.0%	2.7%	2.9%
Online	72.4%	70.5%	71.2%
Hybrid	27.6%	26.9%	25.9%
Correspondence (Cable, Telecourse, Other DL)	0.0%	0.0%	0.0%

Gender	2014-15	2015-16	2016-17
Female	54.0%	55.6%	53.6%
Male	43.7%	42.3%	45.1%
Unknown	2.3%	2.1%	1.3%

Ethnicity	2014-15	2015-16	2016-17
African American	2.1%	2.7%	1.6%
American Indian/AK Native	0.0%	0.3%	0.3%
Asian	37.5%	37.5%	37.6%
Hispanic	11.1%	10.4%	10.9%
Pacific Islander/HI Native	0.0%	1.1%	0.0%
White	33.4%	32.4%	34.1%
Multi-Ethnicity	14.7%	13.6%	15.2%
Other/Unknown	1.2%	2.1%	0.3%

Age Group	2014-15	2015-16	2016-17
19 or Less	10.9%	8.5%	16.8%
20 to 24	45.5%	46.3%	35.5%
25 to 29	19.6%	22.3%	22.7%
30 to 34	10.6%	9.0%	9.6%
35 to 39	5.3%	5.9%	3.7%
40 to 49	4.4%	4.5%	6.1%
50 and Older	3.8%	3.5%	5.6%

Physics courses made up 0.6% of all state-funded enrollment for 2016-17. The percentage difference in Physics course **enrollment** in 2016-17 showed a substantial decrease from 2015-16 and a substantial decrease from 2014-15*. Enrollment in Physics during 2016-17 showed 2.9% of courses were taught **traditional (face-to-fac**e), 71.2% were taught **online**, 25.9% were taught in the **hybrid** modality, and 0.0% were taught in the **correspondence (cable, telecourse, and other distance learning)** modality. The physics enrollment at Coastline was steady during this period.

In 2016-17, Physics enrollment consisted of 53.6% **female**, 45.1% **male**, and 1.3% students of **unknown** gender. In 2016-17, Physics enrollment consisted of 1.6% **African American** students, 0.3% **American Indian/AK Native** students, 37.6% **Asian** students, 10.9% **Hispanic** students, 0.0% **Pacific Islander/HI Native** students, 34.1% **White** students, 15.2% **multi-ethnic** students, and 0.3% students of **other** or **unknown** ethnicity. The age breakdown for 2016-17 enrollments in Physics revealed 16.8% aged **19 or less**, 35.5% aged **20 to 24**, 22.7% aged **25 to 29**, 9.6% aged **30 to 34**, 3.7% aged **35 to 39**, 6.1% aged **40 to 49**, and 5.6% aged **50 and older**.

Awards	2014-15	2015-16	2016-17
College Awarded Degrees	1,882	2,109	2,220
Physics Degrees	0	0	0
College Awarded Certificates	748	644	602
Physics Certificates	0	0	0

The percentage change in the number of Physics **degrees** awarded in 2016-17 showed no comparative data from 2015-16 and no comparative data from the number of degrees awarded in 2014-15.

The percentage change in the number of Physics **certificates** awarded in 2016-17 showed no comparative data from 2015-16 and showed no comparative data in comparison with the number of certificates awarded in 2014-15.

A Physics ADT has been state-approved and all physics classes have C-ID approval.

Comparison of Success Rates	2014-15	2015-16	2016-17
College State-Funded Success Rate	65.4%	66.7%	68.1%
College Institution Set Standard Success Rate	55.3%	55.4%	56.7%
Physics Success Rate	75.4%	81.1%	78.9%

Modality	2014-15	2015-16	2016-17
Traditional	-	70.0%	81.8%
Online	74.1%	80.8%	76.4%
Hybrid	78.7%	83.2%	85.6%
Correspondence (Cable, Telecourse, Other DL)	-	-	-

Gender	2014-15	2015-16	2016-17
Female	79.3%	80.9%	81.6%
Male	69.8%	81.1%	75.7%
Unknown	87.5%	87.5%	80.0%

Ethnicity	2014-15	2015-16	2016-17
African American	85.7%	50.0%	50.0%
American Indian/AK Native	-	100.0%	100.0%
Asian	76.6%	85.8%	83.7%
Hispanic	71.1%	69.2%	70.7%
Pacific Islander/HI Native	-	50.0%	-
White	78.1%	82.8%	81.3%
Multi-Ethnicity	68.0%	78.4%	70.2%
Other/Unknown	75.0%	100.0%	100.0%

Age Group	2014-15	2015-16	2016-17
19 or Less	73.0%	84.4%	74.6%
20 to 24	70.3%	83.3%	83.5%
25 to 29	80.6%	81.0%	84.7%
30 to 34	91.7%	76.5%	80.6%
35 to 39	83.3%	81.8%	78.6%
40 to 49	66.7%	64.7%	73.9%
50 and Older	69.2%	76.9%	42.9%

The percentage difference in the **course success rate** in Physics courses in 2016-17 showed a slight decrease from 2015-16 and a slight increase from 2014-15. When comparing the percentage point difference in the Physics 2016-17 course success rate to the College's overall success average* (66.6%) and the institution-set standard* (56.6%) for credit course success, the Physics **course success rate** was substantially higher than the **college average** and substantially higher than the **institution-set standard*** (56.6%) for credit course success.

When comparing the percentage point difference between instructional modalities to the overall Physics success rate for 2016-17, the success rate was slightly higher for **traditional (face-to-face)** Physics courses, slightly lower for **online** courses, moderately higher for **hybrid courses**, and not applicable for **correspondence (cable, telecourse, and other distance learning)** courses.

When comparing the percentage point difference between genders to the overall Physics success rate for 2016-17, the success rate was slightly higher for **female** students in Physics courses, slightly lower for **male** students, and slightly higher for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Physics success rate for 2016-17, the success rate was substantially lower for **African American** students in Physics courses, substantially higher for **American Indian/AK Native** students, slightly higher for **Asian** students, moderately lower for **Hispanic** students, not applicable for **Pacific Islander/HI Native** students, slightly higher for **White** students, moderately lower for **multi-ethnic** students, and substantially higher for students of **other** or **unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Physics success rate for 2016-17, the success rate was slightly lower for students aged **19 or less** in Physics courses, slightly higher for students aged **20 to 24**, moderately higher for students aged **25 to 29**, slightly higher for students aged **30 to 34**, minimally different for students aged **35 to 39**, moderately lower for students aged **40 to 49**, and substantially lower for students aged **50 and older**.

The lower success rates for African-American students is due to small number statistics.

Comparison of Retention Rates	2014-15	2015-16	2016-17
College State-Funded Retention Rate	85.7%	86.1%	85.8%
College Institution Set Standard Retention Rate	70.1%	69.9%	73.2%
Physics Retention Rate	88.6%	89.6%	88.0%

Modality	2014-15	2015-16	2016-17
Traditional	-	70.0%	100.0%
Online	90.3%	90.9%	87.3%
Hybrid	84.0%	88.1%	88.7%
Correspondence (Cable, Telecourse, Other DL)	-	-	-

Gender	2014-15	2015-16	2016-17
Female	91.3%	88.0%	87.6%
Male	85.2%	91.8%	88.8%
Unknown	87.5%	87.5%	80.0%

Ethnicity	2014-15	2015-16	2016-17
African American	100.0%	80.0%	100.0%
American Indian/AK Native	-	100.0%	100.0%
Asian	87.5%	90.8%	89.4%
Hispanic	89.5%	84.6%	92.7%
Pacific Islander/HI Native	-	75.0%	-
White	89.5%	90.2%	89.1%
Multi-Ethnicity	86.0%	90.2%	77.2%
Other/Unknown	100.0%	100.0%	100.0%

Age Group	2014-15	2015-16	2016-17
19 or Less	83.8%	90.6%	87.3%
20 to 24	86.5%	90.2%	90.2%
25 to 29	92.5%	91.7%	88.2%
30 to 34	97.2%	82.4%	88.9%
35 to 39	94.4%	90.9%	85.7%
40 to 49	80.0%	82.4%	91.3%
50 and Older	84.6%	92.3%	71.4%

The percentage difference in the **retention rate** in Physics courses in 2016-17 showed a slight decrease from 2015-16 and minimal difference from 2014-15. When comparing the percentage point difference in the Physics 2016-17 retention rate to the College's overall retention average* (85.8%) and the institution-set standard* (73.2%) for credit course success, the Physics **retention rate** was slightly higher than the **college average** and substantially higher than the **institution-set standard*** for credit course success.

When comparing the percentage point difference between instructional modalities to the overall Physics retention rate for 2016-17, the retention rate was substantially higher for **traditional (face-to-face)** Physics courses, minimally different for **online** courses, minimally different for **hybrid courses**, and not applicable for **correspondence (cable, telecourse, and other distance learning)** courses.

When comparing the percentage point difference between genders to the overall Physics retention rate for 2016-17, the retention rate was minimally different for **female** students in Physics courses, minimally different for **male** students, and moderately lower for students of **unknown** gender.

When comparing the percentage point difference between ethnicity groups to the overall Physics retention rate for 2016-17, the retention rate was substantially higher for **African American** students in Physics courses, substantially higher for **American Indian/AK Native** students, slightly higher for **Asian** students, slightly higher for **Hispanic** students, not applicable for **Pacific Islander/HI Native** students, slightly higher for **White** students, substantially lower for **multi-ethnic** students, and substantially higher for students of **other or unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Physics retention rate for 2016-17, the retention rate was minimally different for students aged **19 or less** in Physics courses, slightly higher for students aged **20 to 24**, minimally different for students aged **25 to 29**, minimally different for students aged **30 to 34**, slightly lower for students aged **35 to 39**, slightly higher for students aged **40 to 49**, and substantially lower for students aged **50 and older**.

*Note: College term success and retention averages and institution-set standards are computed annually and recorded in the college Key Performance Indicators (KPI) Scorecard.

Data Source: Banner Student Information System

Calculation Categories

Language	**Range**
Minimal to No Difference	< 1.0%
Slight Increase/Decrease	Between 1.0% and 5.0%
Moderate Increase/Decrease	Between 5.1% and 10.0%
Substantial Increase/Decrease	> 10.0%

Student (SLOs) and Program Student Learning Outcome (PSLOs)

Means of assessing SLOs for the following courses are being reviewed and implemented beginning FA 18 with the assistance of the associated faculty:

CHEM/PHYS 140, CHEM 110, CHEM 180/180L, GEOL 105/105L, GEOL 185/185L, PHYS 125

Curriculum Review

Summarize curriculum activities in the past year, providing dates of revisions, new course adoptions, and/or course deletions. Present a list of current degree(s)/certificate(s) and write a summary on new any degree or certificate discontinued over the past year.

Table Curriculum Review

Course	Date Reviewed	Status
ASTR 100	FA 17	Effective SP 18
ASTR 100L	FA 17	Effective SP 18
ASTR 102	FA 17	Effective SP 18
ASTR 103	FA 17	Effective SP 18
CHEM 180	FA 17	Effective SP 18
CHEM 180L	FA 17	Effective SP 18
CHEM 185	SP 17	Effective FA 18
CHEM 185L	FA 17	Effective SP 18
CHEM 220	FA 17	Effective SP 18
CHEM 220L	FA 17	Effective SP 18
CHEM 225	FA 17	Effective SP 18
CHEM 225L	FA 17	Effective SP 18
GEOL 106	SP 17	Effective FA 17
GEOL 121	SP 17	Effective FA 17
PHYS 110	SP 18	Pending
PHYS 110L	SP 18	Pending
PHYS 120	FA 17	Effective SP 18
PHYS 125	FA 17	Effective SP 18
PHYS 185	FA 17	Effective SP 18
PHYS 280	FA 17	Effective SP 18
PHYS 285	FA 17	Effective SP 18

Progress on Initiative(s)

Table Progress on Forward Strategy Initiatives

Initiative(s)	Status	Progress Status	Outcome(s)
Provide more physics offerings to meet student demand.	Ongoing	Hired two new adjuncts.	Evening section of Phys 120 added in SP 19.
Continue to provide an effective and safe learning environment by maintaining new equipment, supplies, and labs in physical sciences.	Completed/ Ongoing	In 2017-18, physical science was purchased and hired lab associates	Overall lab quality has improved

Response to Program/Department Committee Recommendation(s)

Progress on Recommendations

Recommendation(s)	Status	Response Summary
Explore the expansion of Physics and enter into new fields of study (e.g., engineering).	In-Progress	Very little progress has been made in expanding Physics beyond hiring two new Adjunct faculty.
Work with the Instructional Wing to identify opportunities for lab expansions for physical sciences.	In-Progress	No progress in this area.
Secure a National Science Foundation (NSF) grant to support student research projects.	In-Progress	STEM Grant was declined recently (Tanya Murray PI, Devine was a Co-I)
Evaluate the impact of guided pathways on the Sciences Program	In-Progress	Very little progress has been made in this area.

Program Planning and Communication Strategies

Describe the communication methods and interaction strategies used by your program faculty to discuss programmatic-level planning, SLO/PSLO data, institutional performance data, and curriculum and programmatic development.

How and when you meet?

The FT faculty (Devine, Dupon, Marcus) meet on a monthly basis to discuss scheduling, hiring, curriculum, and related issues.

Implications of Change

Provide a summation of perspective around the implications associated with shift in the program performance trends.

What have we done differently?

Astronomy: Added three 8-week sections.
Chemistry: Added new sections of Chem 180/180L and Chem 185/185L.

Physics: Created and offered new course CHEM/PHYS 140. The addition of CHEM/PHYS 140 and new sections of ASTR 100 has resulted in Devine reducing his Physics teaching load and hiring two new Adjunct faculty (Gutierrez and Bryant) to teach Phys 120 and Phys 125. We are adding a new section of Phys 120 in the evening for SP19.

What do want to do?
Astronomy: Expand and improve the Astronomy Labs
Chemistry: Expand and improve the Chemistry Labs and improve the Lab Manuals.
Geology: Expand and improve the Geology Labs and add a Geology Field Trip. Create a new course, GEOL 106 as a follow-up for CHEM/PHYS 140 as part of the program for future teachers.
Physics: Expand and improve the Physics Labs. Update the Physics articulation agreements. Create and Calculus-Based PHYS 280 and PHYS 285.

Building the STE in STEAM

- Expand Physics to include Applied Physics/Engineering (e.g. Robotics).
- Create Master Courses in Chemistry and Physics
- Adopt OERs in Chemistry
- Update and Expand Lab Manuals in all Physical Sciences subjects.

Section 2: Human Capital Planning

Staffing

Table 2.1 Staffing Plan

Year	Administrator	Management	F/T Faculty	P/T Faculty	Classified	Hourly
Previous year 2017-18	Dean		3	Astronomy: 1 Chemistry: 8 Geology: 5 Physics: 2		
Current year 2018-19	Dean		3	Astronomy: 1 Chemistry: 8 Geology: 5 Physics: 3		
1 year 2019-20	Dean		5	Astronomy: 1 Chemistry: 8 Geology: 3 Physics: 1		
2 years 2020-21	Dean		5	Astronomy: 1 Chemistry: 8 Geology: 3 Physics: 1		
3 years 2021-22	Dean		5	Astronomy: 1 Chemistry: 8 Geology: 3 Physics: 1		

Based on your plans what positions are needed?

1 FT Physics faculty.

- STEM education is a long standing point of national emphasis. This hire will enhance all STEM fields at Coastline since Physics is a requirement for most STEM majors.
- One of the primary goals for the Newport Beach Center was to serve as a STEAM center. The addition of curriculum that focuses on projects related to Applied Physics/Engineering is crucial towards achieving this goal (it puts the STE in STEAM)
- This hire is directly related to student success and the creation of innovative, student-centered labs and courses. It will also enhance career opportunities and successful transfer to four-year colleges and universities

1 FT Geology faculty (to replace Debbie Secord)

- This initiative is directly related to student success and the creation of innovative, student-centered labs and courses. It will also enhance career opportunities and successful transfer to four-year colleges and universities.
- According to the United States Labor Department, employment of geoscientists is projected to grow 14 percent from 2016 to 2026, faster than the average for all occupations. The need for energy, environmental protection, and responsible land and resource management is projected to spur demand for geoscientists.

Professional Development

Provide a description of the program's staff professional development participation over the past year. Include evidence that supports program constituents participating in new opportunities to meet the professional development needs of the program.

Table 2.2 Professional Development

Name (Title)	Professional Development	Outcome
Jean Dupon FT Chemistry	Assisted in RSI evaluations related to accreditation.	Completed SP 18
David Devine FT Astronomy/Physics	Assisting in RSI evaluations related to accreditation.	Begins FA 18

Based on your plans what training is needed?

Continued CANVAS training for new faculty.

Section 3: Facilities Planning

Facility Assessment

Based on your plans what facilities are needed?

A dedicated Physics laboratory room will be needed within the next 5-10 years. The "Dance Studio" will suffice, but only as a temporary solution.

Section 4: Technology Planning

Technology Assessment

Based on your plans what technology is needed?

It depends on the hire of a FT Physics faculty. The new hire would be expected to explore applied physics/engineering program such as robotics.

Section 5: New Initiatives

LS #1 Initiative: Start a Nursing Program

Describe how the initiative supports the college mission:
Provide an explanation of how the initiative supports the College mission.

What college goal does the initiative support? Select one
x Student Success, Completion, and Achievement
☐ Instructional and Programmatic Excellence
☐ Access and Student Support
☐ Student Retention and Persistence
☐ Culture of Evidence, Planning, Innovation, and Change
☐ Partnerships and Community Engagement
☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply
x Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.
☐ Provide universal access to student service and support programs.
x Strengthen post-Coastline outcomes (e.g., transfer, job placement).
x Explore and enter new fields of study (e.g., new programs, bachelor's degrees).
x Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.
x Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).
x Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply
☐ Learning Outcome (SLO/PSLO) assessment
☐ Internal Research (Student achievement, program performance)
x External Research (Academic literature, market assessment, audit findings, compliance mandates)

Describe how the evidence supports this initiative.
According to the American Nurses Association, there are currently three million nurses and the US needs another million by 2022 to meet the country's healthcare needs. In 2017, nursing schools turned away 56,000 qualified applicants, and increase of 26,000 over a decade ago. The demand for nurse and supply of qualified applicants are meet with a bottleneck at the education level. Nursing schools have not increased enrollment and in some cases decreased the openings for various reasons.

Recommended resource(s) needed for initiative achievement:
Courses
Coastline currently offers all the prerequisites course work as well as four of the 11 program requirements for Associate Degree in Nursing. The remaining seven courses are specific to nursing.

Student Plan

Prerequisites	Units	CCC current offering?
English G100 – English Composition	3	Yes
Communication G110 – Public Speaking	3	Yes
Psychology G118 – Life Span Development	3	Yes
TOTAL	**9**	

Semester 1		
Biology G220 – Human Anatomy	4	Yes
Nursing G131 – Professional Nursing Issues 1	1	No
Nursing G130 – Health and Illness 1	9	No
Semester 2		
Nursing G140 – Health and Illness 2	8	No
Sociology G100 – Introduction to Sociology	3	Yes
Biology G225 – Human Physiology	4	Yes
Semester 3		
Nursing G240 – Health and Illness 3	8	No
Nursing G241 – Professional Nursing Issues 2	1	No
Biology G210 – General Microbiology	5	Yes
Semester 4		
Nursing G270 – Health and Illness 4	8	No
Nursing G271 – Professional Nursing Issues 3	1	No
TOTAL	**52**	
Additional elective coursework	28	
Associate Degree in Nursing (ADN)	**89**	

Faculty
Nursing schools are challenged with faculty recruitment. The annual national vacancy rate in nursing programs is over 7%, roughly a shortage of 2 instructors per school or 1,565 nationally. The difficultly lies in the pay discrepancy between practicing versus teaching. According to the American Association of Nurse Practitioners, the national average salary for nurse practitioners is $97,000 while nursing school assistant professors earn $78,575. Practicing nurses also experience greater flexibility with scheduling and work-life balance.

Technology
See attachment

What is the anticipated outcome of completing the initiative?

- Completion of this curriculum qualifies students to receive the Associate Degree in Nursing (ADN) and prepares students for a smooth transition to a Bachelor's Degree in Nursing (BSN) program.
- Provide a linkage program to partner schools such as CSUF, Concordia, Vanguard, and Chamberlain University.
- Provide a program (LVN-RN) to promote Licensed Vocational Nurse (LVN) to Registered Nurse (RN).
- Graduates are eligible to take the National Licensing Examination for Registered Nurses (NCLEX).

Provide a timeline and timeframe from initiative inception to completion.

- Phase 1: Determine feasibility costs; research permits-6 months to one year
- Phase 2: Acquire classroom space; purchase technology and equipment; develop coursework needed 1-2 years
- Phase 3: Hiring faculty; advertisement; open doors 6 months-1 year

LS #2 Initiative: Develop Pharmacy Technician Pathway

What college goal does the initiative support? Select one

x Student Success, Completion, and Achievement

☐ Instructional and Programmatic Excellence

☐ Access and Student Support

☐ Student Retention and Persistence

☐ Culture of Evidence, Planning, Innovation, and Change

☐ Partnerships and Community Engagement

☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply

x Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.

☐ Provide universal access to student service and support programs.

x Strengthen post-Coastline outcomes (e.g., transfer, job placement).

x Explore and enter new fields of study (e.g., new programs, bachelor's degrees).

x Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.

x Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).

x Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply

☐ Learning Outcome (SLO/PSLO) assessment

☐ Internal Research (Student achievement, program performance)

x External Research (Academic literature, market assessment, audit findings, compliance mandates)

Describe how the evidence supports this initiative.

There is ample need for pharmaceutical support professionals capable of filling prescription medications quickly and efficiently. The Bureau of Labor Statistics (BLS) predicts employment growth of about 12 percent between 2016 and 2026 – faster than the average growth rate for all occupations – and during that period, 47,600 new positions will need to be filled. Additionally, there is a tremendous amount of demand as the baby boomer population ages and consumes more and more medications.

Recommended resource(s) needed for initiative achievement:

There are 4 educational routes to qualify for the CA pharm tech license.

1. Affidavit of Completed Coursework or Graduation:
    a. Associate Degree in Pharmacy Technology;
    b. Any other course that provides a minimum of 240 hours of instruction as required;
    c. Training course accredited by the American Society of Health-System Pharmacists (ASHP);
    d. Graduation from a school of pharmacy accredited by the Accreditation Council for Pharmacy Education (ACPE).
2. Pharmacy Technician Certification Board (PTCB) certified
3. National Healthcare Association Pharmacy Technician Certification Program (ExCPT)
4. Military Training

The Huntington Beach Adult School (HBUHSD) offer the 1b option. The program cost range from $1,200 (HBAD) for a 3 month long program. Santa Ana College offers both 1a and 1b options. Cerritos College offers only 1a option. Cerritos and Santa Ana charge the standard $41/unit.

Courses

Coastline currently does not offer any of the course work for the Certificate or Associate in Pharmacy Technology. The student plans for Cerritos and Santa are found below.

Cerritos College	Units	Santa Ana College	Units

Intro to Pharmacy	1.5	Intro to Pharmacy	2
Pharmacy Skills lab	1	Body system 1	3.5
Pharmacy Ops 1	1.5	Body system 2	3.5
Pharmacy Ops 2	2	Pharmacy Ops	4.5
Pharmacy Ops 3	2	Pharmacy Calculations	2
Pharmacy Ops 4	2	Externship/elective	4.5
Medications Calculations	1	**TOTAL - Certificate**	**20**
Pharmaceutical Calculations	1.5		
Medical Terminology	3	Inpatient Pharmacy Services	2
OTC products	3	Sterile Products	4.5
Pharmacology 1	3	Lab skills	0.5
Pharmacology 2	3	Externship/elective	5
Clinical	3	**TOTAL - - Advance Certificate**	**32**
TOTAL - program requirements	**27.5**		
TOTAL - Associate	**60**	**TOTAL - Associate**	**60**

Faculty
Instructors must be graduates of an accredited Pharmacy Technician program recognized by the U.S. Secretary of Education or the Council for Higher Education Accreditation (CHEA), or a graduate of an otherwise recognized training entity (e.g., hospital-based program) as a Pharmacy Technician. Ideally, instructors will have three years of occupational experience as a Pharmacy Technician or a minimum of four years of job-related training and experience for those instructors who are not graduates from an accredited Pharmacy Technician program.

Technology
TBD

What is the anticipated outcome of completing the initiative?
California does not have an examination process for pharmacy technicians. In order to obtain a pharmacy technician license, students must meet the qualification requirements of the California State Board of Pharmacy. One requirement is the documentation of education or training, which can be met by completing any of the three training options 1a or 1b.

Provide a timeline and timeframe from initiative inception to completion.

- Phase 1: Determine feasibility costs; research permits-6 months to one year
- Phase 2: Acquire classroom space; purchase technology and equipment; develop coursework needed- 1 year
- Phase 3: Hiring faculty; advertisement; open doors 6 months-1 year

#3 Initiative: Develop Physical Therapy Aid/Technician Pathway

What college goal does the initiative support? Select one
x Student Success, Completion, and Achievement
☐ Instructional and Programmatic Excellence
☐ Access and Student Support
☐ Student Retention and Persistence
☐ Culture of Evidence, Planning, Innovation, and Change
☐ Partnerships and Community Engagement
☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply

x Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.

☐ Provide universal access to student service and support programs.

x Strengthen post-Coastline outcomes (e.g., transfer, job placement).

x Explore and enter new fields of study (e.g., new programs, bachelor's degrees).

x Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.

x Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).

x Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply

☐ Learning Outcome (SLO/PSLO) assessment

☐ Internal Research (Student achievement, program performance)

x External Research (Academic literature, market assessment, audit findings, compliance mandates)

What is the anticipated outcome of completing the initiative?

Increased certificates and transfers into pharmacy programs.

Describe how the evidence supports this initiative.

There is a high demand for physical therapist assistants. According to the Bureau of Labor Statistics (BLS), employment of physical therapists is expected to grow by 40 percent from 2014 to 2024, much faster than the average for all occupations. The need for PTAs is expected to increase into the foreseeable future as the U.S. population ages and the demand for physical therapy services grows. More than 128,700 physical therapist assistants are licensed in the U.S. The median salary for a physical therapist is $45,290 ($21.77 per hour) depending on position, years of experience, degree of education, geographic location, and practice setting. (Source: U.S. Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections)

Recommended resource(s) needed for initiative achievement:

The length of a PTA program is typically 2 years (5 semesters) consisting of general education course, physical therapy courses, and clinical education. Primary physical therapy content areas in the curriculum may include, but are not limited to, anatomy & physiology, exercise physiology, biomechanics, kinesiology, neuroscience, clinical pathology, behavioral sciences, communication, and ethics/values. Approximately seventy-five percent (75%) of the PTA curriculum comprises classroom (didactic) and lab study and the remaining 25 percent (25%) is dedicated to clinical education. PT students spend on average 16 weeks in full-time clinical education experiences.

Courses

Cerritos College

Course	Description	Units
PTA 110	Introduction to Physical Therapy	4
PTA 120	Kinesiology	4
PTA 125	Pathology	3
PTA 126	Clinical Practicum I	4
PTA 128	Physical Therapy Aspects of Growth, Development	3

PTA129	Aging and Integumentary Management	1.5
PTA 130	Soft Tissue Interventions	1
PTA230	Therapeutic Exercise	4
PTA 233	Prosthetics and Orthotics for Allied Health Professional	2
PTA 235	Neurology	3
PTA 236	Clinical Practicum II	4
PTA 240	Activities of Daily Living	2
PTA 245	Advanced Modalities	3
PTA 246	Clinical Affiliation III	4
PTA 250	Licensure Examination Preparation	1

Concordia College (Garden Grove)

Course	Description
BIOL1310*	Anatomy & Physiology I
BIOL1320*	Anatomy & Physiology II
COMM1310*	Elements of Human Communication
ENGL1310*	English Composition I
MATH1310: Contemporary Mathematics OR MATH1320: College Algebra	
PSYC1310*	General Psychology
PSYC1320*	Human Growth & Development
PTAP1201	Functional & Applied Anatomy Lab
PTAP1210	Patient Care Skills
PTAP1211	Patient Care Skills Lab
PTAP1221	Musculoskeletal Rehabilitation Lab
PTAP1240	Modalities
PTAP1241	Modalities Lab
PTAP1300	Introduction to Physical Therapy
PTAP1320	Musculoskeletal Rehabilitation
PTAP1350	Pathology for the Physical Therapist Assistant
PTAP1400	Functional & Applied Anatomy
PTAP2121	Cardiopulmonary Rehabilitation Lab
PTAP2131	Rehabilitation for Specialized Disorders Lab

PTAP2201 Neuromuscular Rehabilitation Lab

PTAP2210 Rehabilitation Through the Lifespan

PTAP2220 Cardiopulmonary Rehabilitation

PTAP2230 Rehabilitation for Specialized Disorders

PTAP2340 Special Topics for the Physical Therapist Assistant

PTAP2400 Neuromuscular Rehabilitation

PTAP2525 Clinical Experience I

PTAP2535 Clinical Experience II

PTAP2545 Clinical Experience III

**Courses offered online*

Faculty

Instructors must be a graduate of an associate degree in PTA or professional degree as a PT and be in California. Ideally, instructors will four or more years of clinical experience in the field of physical therapy as a PTA or PT.

Technology

TBD

What is the anticipated outcome of completing the initiative?
Upon obtaining a CAPTE-accredited two-year associate degree program, graduates will be eligible to take the National Physical Therapy Exam (NPTE) for physical therapy aids and California Law Exam (CAL-Law). Both exams are required to become licensed in California.

Provide a timeline and timeframe from initiative inception to completion.

- Phase 1: Determine feasibility costs; research permits-6 months to one year
- Phase 2: Acquire classroom space; purchase technology and equipment; develop coursework needed- 1 year
- Phase 3: Hiring faculty; advertisement; open doors 6 months-1 year

Initiative 4 Add Practical Training Options for Marine Science Lab – Diving Certification

What college goal does the initiative support? Select one
☐ Student Success, Completion, and Achievement
x Instructional and Programmatic Excellence
☐ Access and Student Support
☐ Student Retention and Persistence
☐ Culture of Evidence, Planning, Innovation, and Change
☐ Partnerships and Community Engagement
☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply
☐ Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.
☐ Provide universal access to student service and support programs.

x Strengthen post-Coastline outcomes (e.g., transfer, job placement).
x Explore and enter new fields of study (e.g., new programs, bachelor's degrees).
x Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.
x Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).
☐ Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply
☐ Learning Outcome (SLO/PSLO) assessment
X Internal Research (Student achievement, program performance)
☐ External Research (Academic literature, market assessment, audit findings, compliance mandates)

What is the anticipated outcome of completing the initiative?
Additional recruitment of MRSC100L, higher enrollment and student engagement in MRSC100L, and development of transferable skills for nonmajors.

- Phase 1: Determine feasibility costs; research lab fees
- Phase 2: Develop partnership with diving instruction provider
- Phase 3: Offer diving certification as an option that accompanies MRSC100L

LS Initiative 5 Study Abroad During Spring Break for Diversity of Organisms BIOL185, Human Ecology BIOL102, Spanish Language and Art (Drawing) Classes

What college goal does the initiative support? Select one

☐ Student Success, Completion, and Achievement

x Instructional and Programmatic Excellence

☐ Access and Student Support

☐ Student Retention and Persistence

☐ Culture of Evidence, Planning, Innovation, and Change

☐ Partnerships and Community Engagement

☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply

x Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.

☐ Provide universal access to student service and support programs.

x Strengthen post-Coastline outcomes (e.g., transfer, job placement).

x Explore and enter new fields of study (e.g., new programs, bachelor's degrees).

x Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.

x Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).

☐ Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply

☐ Learning Outcome (SLO/PSLO) assessment

X Internal Research (Student achievement, program performance)

☐ External Research (Academic literature, market assessment, audit findings, compliance mandates)

What is the anticipated outcome of completing the initiative?

Program excellence and cooperation to enhance the student learning experiences associated with biodiversity, human ecology, Spanish language, and drawing curriculum gained through study abroad opportunities. Increased student persistence and success and interdepartmental cooperation.

- Phase 1: Determine feasibility costs; research new vendors
- Phase 2: Develop partnership with new vendor
- Phase 3: Offer week long field trip to Costa Rica to study, view, draw diverse organisms and practice Spanish speaking skills

LS Initiative 6: CREATE A LEARNING LIBRARY

What college goal does the initiative support? Select one

☐ Student Success, Completion, and Achievement

x Instructional and Programmatic Excellence

☐ Access and Student Support

☐ Student Retention and Persistence

☐ Culture of Evidence, Planning, Innovation, and Change

☐ Partnerships and Community Engagement

☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply

x Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.

x☐ Provide universal access to student service and support programs.

x Strengthen post-Coastline outcomes (e.g., transfer, job placement).

Explore and enter new fields of study (e.g., new programs, bachelor's degrees).

x Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.

x Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).

☐ Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply

☐ Learning Outcome (SLO/PSLO) assessment

X Internal Research (Student achievement, program performance)

☐ External Research (Academic literature, market assessment, audit findings, compliance mandates)

What is the anticipated outcome of completing the initiative?

Creates equity among students in that all have access to the same high quality books. Also allows them to have a physical book with high quality scientific pictures that will promote increased learning. Promotes zero cost classes. Potential to increase enrollments and FTES. Makes sure that all students have a text book at the beginning of class, not just when funding comes in or the bookstore orders the second round because they did not order enough the first time. Can be purchased once and then replaced only as needed. This is the same program that is used in 9-12 grades.

LS Initiative 7 FUND LAB MANUALS FOR STUDENTS

What college goal does the initiative support? Select one

☐ Student Success, Completion, and Achievement

x Instructional and Programmatic Excellence

☐ Access and Student Support

☐ Student Retention and Persistence

☐ Culture of Evidence, Planning, Innovation, and Change

☐ Partnerships and Community Engagement

☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply

x Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.

☐ Provide universal access to student service and support programs.

x Strengthen post-Coastline outcomes (e.g., transfer, job placement).

Explore and enter new fields of study (e.g., new programs, bachelor's degrees).

x Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.

x Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).

☐ Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply

☐ Learning Outcome (SLO/PSLO) assessment

X Internal Research (Student achievement, program performance)

☐ External Research (Academic literature, market assessment, audit findings, compliance mandates)

What is the anticipated outcome of completing the initiative?

Creates equity among students in that all have access to the same high quality lab manuals. Promotes zero cost classes. Makes sure that all students have a lab manual at the beginning of class, not just when funding comes in or the bookstore orders the second round because they did not order enough the first time. Potential to increase enrollments and FTES.

LS Initiative 8: CREATE A MARKETING PLAN

What college goal does the initiative support? Select one

☐ Student Success, Completion, and Achievement

x Instructional and Programmatic Excellence

☐ Access and Student Support

☐ Student Retention and Persistence

☐ Culture of Evidence, Planning, Innovation, and Change

☐ Partnerships and Community Engagement

☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply

x Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.

☐ Provide universal access to student service and support programs.

x Strengthen post-Coastline outcomes (e.g., transfer, job placement).

x Explore and enter new fields of study (e.g., new programs, bachelor's degrees).

x Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.

x Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).

☐ Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply

☐ Learning Outcome (SLO/PSLO) assessment

X Internal Research (Student achievement, program performance)

☐ External Research (Academic literature, market assessment, audit findings, compliance mandates)

What is the anticipated outcome of completing the initiative?

Creating a marketing plan that promotes the excellence of our faculty and our program from our courses that we offer (which have increase significantly in the past five years), to our Programs, namely the Health Science Certificate, to our Work-Study, which is involved in ecological research, 3-D printing of prosthetics, will increase the number of onsite students at Coastline and hopefully increase transfer rates, degrees, and certificates.

PS Initiative 1: Continue to provide an effective and safe learning environment by maintaining new equipment, supplies, and labs in physical sciences.

Describe how the initiative supports the college mission:

This initiative is directly related to student success and the creation of innovative, student-centered labs and courses.

What college goal does the initiative support? Select one

☐ Student Success, Completion, and Achievement
X Instructional and Programmatic Excellence
☐ Access and Student Support
☐ Student Retention and Persistence
☐ Culture of Evidence, Planning, Innovation, and Change
☐ Partnerships and Community Engagement
☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply

X Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.
☐ Provide universal access to student service and support programs.
X Strengthen post-Coastline outcomes (e.g., transfer, job placement).
X Explore and enter new fields of study (e.g., new programs, bachelor's degrees).
X Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.
☐ Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).
☐ Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply

☐ Learning Outcome (SLO/PSLO) assessment
X Internal Research (Student achievement, program performance)
☐ External Research (Academic literature, market assessment, audit findings, compliance mandates)

Describe how the evidence supports this initiative.

Discussions with the NBC Dean, FT and PT faculty, Lab Associates and a comparison with curriculum at local community colleges has revealed a need to improve the quality and quantity of the physical sciences labs.

Recommended resource(s) needed for initiative achievement:

No immediate resources are required, although the identification of necessary lab equipment and supplies, especially in Chemistry, will most likely arise during the next 1-2 years.

What is the anticipated outcome of completing the initiative?

Improvements to the quality and quantity of Physical Sciences Labs and the development of Field Trips associated with Geology.

Provide a timeline and timeframe from initiative inception to completion.

All updates and upgrades should be completed by the 2020-2021 school year.

PS Initiative 2: Develop and scale an Applied Physics/Engineering program

Describe how the initiative supports the college mission:
This initiative is directly related to student success and the creation of innovative, student-centered labs and courses. It will also enhance career opportunities and successful transfer to four-year colleges and universities.

What college goal does the initiative support? Select one
X Student Success, Completion, and Achievement
X Instructional and Programmatic Excellence
☐ Access and Student Support
☐ Student Retention and Persistence
X Culture of Evidence, Planning, Innovation, and Change
X Partnerships and Community Engagement
☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply
X Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.
☐ Provide universal access to student service and support programs.
X Strengthen post-Coastline outcomes (e.g., transfer, job placement).
X Explore and enter new fields of study (e.g., new programs, bachelor's degrees).
☐ Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.
☐ Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).
☐ Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply
☐ Learning Outcome (SLO/PSLO) assessment
☐ Internal Research (Student achievement, program performance)
X External Research (Academic literature, market assessment, audit findings, compliance mandates)

Describe how the evidence supports this initiative.
STEM education is a long standing point of national emphasis. One of the primary goals for the Newport Beach Center was to serve as a STEAM center. The addition of curriculum that focuses on projects related to Applied Physics/Engineering is crucial towards achieving this goal.

Recommended resource(s) needed for initiative achievement:
FT Faculty and equipment

What is the anticipated outcome of completing the initiative?
The establishment of NBC as a bona fide STEAM center. This will grow and enhance all STEM fields at Coastline.

Provide a timeline and timeframe from initiative inception to completion.
4-6 years after a new FT Physics faculty is hired.

PS Initiative 3: Develop and scale a Geology Program.

Describe how the initiative supports the college mission:
This initiative is directly related to student success and the creation of innovative, student-centered labs and courses. It will also enhance career opportunities and successful transfer to four-year colleges and universities.

What college goal does the initiative support? Select one
X Student Success, Completion, and Achievement
X Instructional and Programmatic Excellence
☐ Access and Student Support
☐ Student Retention and Persistence
X Culture of Evidence, Planning, Innovation, and Change
X Partnerships and Community Engagement
☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply
X Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.
☐ Provide universal access to student service and support programs.
X Strengthen post-Coastline outcomes (e.g., transfer, job placement).
X Explore and enter new fields of study (e.g., new programs, bachelor's degrees).
☐ Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.
☐ Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).
☐ Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply
☐ Learning Outcome (SLO/PSLO) assessment
☐ Internal Research (Student achievement, program performance)
X External Research (Academic literature, market assessment, audit findings, compliance mandates)

Describe how the evidence supports this initiative.
According to the United States Labor Department, employment of geoscientists is projected to grow 14 percent from 2016 to 2026, faster than the average for all occupations. The need for energy, environmental protection, and responsible land and resource management is projected to spur demand for geoscientists.

Recommended resource(s) needed for initiative achievement:
FT Faculty

What is the anticipated outcome of completing the initiative?
- Update and improve the rigor and quality of the existing Geology courses.
- Create new Geology courses, especially online GEOL 106 for future K-12 teachers.
- Organize and offer Geology related Field Trips

Provide a timeline and timeframe from initiative inception to completion.
Create a timeline and provide a timeframe that can be used to complete the initiative
4-6 years after FT Geology hire.

PS Initiative 4: Increase course quality and student access to course materials in physical sciences

Describe how the initiative supports the college mission:
This initiative is directly related to student success and the creation of innovative, student-centered labs and courses. It will also enhance career opportunities and successful transfer to four-year colleges and universities.

What college goal does the initiative support? Select one
X Student Success, Completion, and Achievement
X Instructional and Programmatic Excellence
☐ Access and Student Support
☐ Student Retention and Persistence
X Culture of Evidence, Planning, Innovation, and Change
X Partnerships and Community Engagement
☐ Fiscal Stewardship, Scalability, and Sustainability

What Educational Master Plan objective does the initiative support? Select all that apply
X Increase student success, retention, and persistence across all instructional delivery modalities with emphasis in distance education.
☐ Provide universal access to student service and support programs.
X Strengthen post-Coastline outcomes (e.g., transfer, job placement).
X Explore and enter new fields of study (e.g., new programs, bachelor's degrees).
☐ Foster and sustain industry connections and expand external funding sources (e.g., grants, contracts, and business development opportunities) to facilitate programmatic advancement.
☐ Strengthen community engagement (e.g., student life, alumni relations, industry and academic alliances).
☐ Maintain the College's Asian American and Native American Pacific Islander Serving Institution (AANAPISI) designation and pursue becoming a designated Hispanic Serving Institution (HSI).

What evidence supports this initiative? Select all that apply
☐ Learning Outcome (SLO/PSLO) assessment
☐ Internal Research (Student achievement, program performance)
X External Research (Academic literature, market assessment, audit findings, compliance mandates)

Describe how the evidence supports this initiative.
Courses in the physical sciences are taken to satisfy GE requirements or as part of STEM majors.

Recommended resource(s) needed for initiative achievement:
OER, Master courses

What is the anticipated outcome of completing the initiative?
Specify the anticipated result(s) of completing the initiative.
A consistent, high quality suite of courses that ensure an appropriate level of rigor while maintaining RSI standards.

Provide a timeline and timeframe from initiative inception to completion.
By the end of the 2020-2021 school year.

Section 6: Prioritization

List and prioritize resource requests that emerge from the initiatives. For full-time positions, include a Coast District approved job description

Initiative	Resource(s)	Est. Cost	Funding Type	Health, Safety Compliance	Evidence	College Goal	To be Completed by	Priority
Continue to provide an effective and safe learning environment by maintaining new equipment, supplies, and labs in physical sciences.	Physical Science lab supplies	25,000	Ongoing	No	Internal Research	Instructional and Programmatic Excellence	2019-20	
Develop and scale an Applied Physics/ Engineering program	FT Faculty and equipment		Ongoing	No	Internal Research, External Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence; Culture of Evidence, Planning, Innovation, and Change; Partnerships and Community Engagement	2019-20	
Develop and scale a Geology Program.	FT Faculty		Ongoing	No	Internal Research, External Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence; Culture of Evidence, Planning, Innovation, and Change; Partnerships and Community Engagement	2019-20	
Increase course quality and student access to course materials in physical sciences	OER, Master courses		One-Time	No	Internal Research, External Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence; Culture of Evidence, Planning, Innovation, and Change; Partnerships and Community Engagement	2019-20	

Initiative	Resource(s)	Est. Cost	Funding Type	Health, Safety Compliance	Evidence	College Goal	To be Completed by	Priority
Provide adequate supplies for the life sciences	Biology supplies	75,000	Ongoing	No	Internal Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence	2019-20	1
Full time Instructional Lab Associate needed to aid in Microbiology, Anatomy, Physiology, Diversity of Organisms, General Biology, Cell and Molecular Biology, and Marine Science Labs that occur over 3 campuses	Full time Instructional Lab Associate	75,000	Ongoing	No	Internal Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence	2019-20	2
Peristaltic pump needed to increase safety and efficiency in microbiology	Peristaltic pump	3,000	One-Time	Yes	Internal Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence	2019-20	3
Incubator needed to run 3rd section of microbiology at NBC	Incubator	3,000	One-Time	Yes	Internal Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence	2019-20	4
Biopacs (4) Biopacs needed for physiology labs to replace broken models and to allow for groups of 4-5 students to use instead of 6-7 around one computer.	Biopacs (4)	16,000	One-time	No	Internal Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence	2019-20	5
Poison storage cabinet needed at Garden Grove to store toxic chemicals in safe, locked cabinet	Poison storage cabinet	1,800	One-Time	Yes	Internal Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence	2019-20	6

Update microscopes	Microscopes (6)	7,500	One-Time	No	Internal Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence	2019-20	7
Work-based learning materials allow for student research and may increase their transfer rate and acceptance rate to health care programs	Work Based Learning Materials: Statistical program, laptop, 3D printer, CRISPR lab supplies	10,000	One-Time	No	External Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence	2019-20	8
Refrigerator to store microbiological specimens	Equipment funds	1,500	One-Time	Yes	Internal Research	Instructional and Programmatic Excellence	2019-20	9
Health Science Academic Triathlon	VP funds	1,000	Ongoing	No	Internal Research	Instructional and Programmatic Excellence	2019-20	10
Cadaver lab to increase student knowledge, provide the necessary education for the pre-health care student, and perhaps decrease some dissection costs	General funds	250,000	One-Time	No	External Research	Instructional and Programmatic Excellence	2020-21	11
Conversion of space on third floor of Garden Grove improves ability of students to take multiple science courses at one campus, decreases travel time for students, faculty and instructional lab associates and decreases having to maintain adequate supplies at 3 campuses	Needs feasibility study	5,000	One-Time	No	Internal Research	Instructional and Programmatic Excellence	2019-20	12
Nursing Program; PT aid; Pharm aid/tech programs	General funds-feasibility studies	10,000	One-Time	No	External Research	Instructional and Programmatic Excellence	24-2025	13
Full Time Faculty	General Funds	100,000	Ongoing	No	Internal Research, External Research	Instructional and Programmatic Excellence	2019-20	14

Prioritization Glossary

Initiative:	Provide a short description of the plan
Resource(s):	Describe the resource(s) needed to support the completion of the initiative
Est. Cost:	Estimated financial cost of the resource(s)
Funding Type:	Specify if the resource request is one-time or ongoing
Health, Safety Compliance:	Specify if the request relates to health or safety compliance issue(s)
Evidence:	Specify what data type(s) supported the initiative (Internal research, external research, or learning outcomes)
College Goal:	Specify what College goal the initiative aligns with
To be completed by:	Specify year of anticipated completion
Priority:	Specify a numerical rank to the initiative

Data Glossary

Enrolled (Census): The official enrollment count based on attendance at the census point of the course.

FTES: Total **full-time equivalent students** (FTES) based on enrollment of resident and non-resident students. Calculations based on census enrollment or number of hours attended based on the type of Attendance Accounting Method assigned to a section.

FTEF30: A measure of productivity that measures the number of **full-time faculty** loaded for the entire year at 30 Lecture Hour Equivalents (15 LHEs per fall and spring terms). This measure provides an estimate of full-time positions required to teach the instruction load for the subject for the academic year.

WSCH/FTEF (595): A measure of productivity that measures the weekly student contact hours compared to full-time equivalent faculty. When calculated for a 16 week schedule, the productivity benchmark is 595. When calculated for an 18 week schedule, the benchmark is 525.

Success Rate: The number of passing grades (A, B, C, P) compared to all valid grades awarded.

Retention Rate: The number of retention grades (A, B, C, P, D, F, NP, I*) compared to all valid grades awarded.

Fall-to-Spring Persistence: The number of students who completed the course in the fall term and re-enrolled (persisted) in the same subject the subsequent spring semester.

F2S Percent: The number of students who completed a course in the fall term and re-enrolled in the same subject the subsequent spring semester divided by the total number of students enrolled in the fall in the subject.

The following job descriptions are taken directly from recent District searches for FT Physics (GWC 2016) and FT Geology (OCC 2018).

COAST COMMUNITY COLLEGE DISTRICT
invites applications for the position of:

Instructor, Physics

DEFINITION:

THE POSITION

The physical science department is currently seeking a full-time tenure track Physics Instructor commencing with the 2019 fall semester. The primary teaching assignment involves instruction in physics lecture and laboratory courses. This assignment also includes curriculum and program development, participation in department, division, college committees, and participatory governance activities assuming leadership roles both within the department and in the institution as a whole; collaboration across disciplines and the leveraging of student support resources; and participation in ongoing professional development.

The assignment may be day, evening, weekend, online or off campus and is subject to change as needed. The ideal candidate for this position embraces the overall mission of Coastline College and the Coast Community College District, with a clear, focused commitment to supporting teaching and academic excellence, and student learning and success through the work of physics.

Examples of Duties: Duties may include, but are not limited to, the following:

1. Provide instruction in the Physics courses and their associated laboratories in accordance with established course outlines. Applied Physics/Engineering courses may also be assigned.
2. Provide leadership in the development and revision of Physics/Engineering curriculum.
3. Participate in curriculum development, implementation, and evaluation; participate in and develop programs to measure student performance.
4. Maintain current knowledge in the subject matter areas.
5. Maintain appropriate standards of professional conduct and ethics.
6. Fulfill the professional responsibilities of a full-time faculty member including, but not limited to the following: teach all scheduled classes unless excused under provisions of Board Policy; follow the department course outlines; keep accurate records of student enrollment, attendance, and progress; submit student grades according to established deadlines; post and maintain scheduled office hours; participate in departmental meetings and college and/or district- wide activities and

committees as assigned.
7. Assignment may include day, evening, weekend, and online sections.

QUALIFICATIONS AND PHYSICAL DEMANDS:

Minimum Qualifications:

1. Must meet one of the following qualifications under (a) through (d):
    a. Possess the California Community College Teaching Credential for this subject area.
    b. Possess a Master's degree from an accredited institution in physics.
    c. Possess a Bachelor's degree from an accredited institution in physics **AND** a Master's degree in engineering, mathematics, meteorology, or geophysics.
    d. Or, possess a combination of education and experience that is at least the equivalent to the above. Candidates making an application on the basis of equivalency must submit an Application for Equivalency (located at www.cccd.edu/employment) in addition to all other required materials.

2. Evidence of a sensitivity to, understanding of, and the ability to manage the classroom environment AND effectively provide instruction to community college students of diverse academic, socioeconomic, cultural, disability, and ethnic backgrounds.

Desirable Qualifications:

1. Evidence of an ability to contribute to campus and district-wide professional responsibilities and activities.
2. Evidence of an ability to complement existing staff, student and community demographics in terms of professional and personal skills.
3. Possession of a Master's or Doctorate degree in Physics.
4. A minimum of two years of recent experience teaching Physics at the post-secondary level. Recent experience and demonstrated abilities in teaching lectures and associated laboratories in college-level Physics, preferably at several levels which may include general education Physics, Physics for Life Sciences, and Calculus-based Physics for science majors.
5. Experience in teaching Applied Physics/Engineering courses is desirable.
6. Recent experience in using a variety of modern physics instrumentation and computer-based applications for the physics curriculum.
7. Experience or training that illustrates familiarity with current theories and methodologies for teaching Physics.
8. Desire and demonstrated ability to participate actively in department, division, and college committees and in the shared governance of Coast Community College District.
9. Desire and evidence of an ability to take on leadership roles both within the department and in the institution as a whole.
10. Evidence of an ability to address the instructional needs of a diverse and frequently underprepared student population.

11. Evidence of an ability to adapt teaching pedagogy to the knowledge level (developmental through transfer) and personality of each individual and class.
12. Evidence of outstanding achievement as a student or instructor, or other special qualifications, awards, publications, workshops, etc.
13. Evidence of participation in student success initiatives in a post-secondary setting.
14. Evidence of an ability to communicate effectively both orally and in writing.

COAST COMMUNITY COLLEGE DISTRICT
invites applications for the position of:

Instructor, Geology

DEFINITION:

Coastline College is seeking a full-time, equity-minded, tenure track faculty member in Geology commencing with the 2019 fall semester. The primary teaching assignment involves a full range of Geology and Earth Science courses, including General Geology (Earth Science), Physical Geology, Earth History, Environmental and California Geology. This assignment also includes curriculum and program development, participation in department, division, college committees, and participatory governance activities assuming leadership roles both within the department and in the institution as a whole; collaboration across disciplines and the leveraging of student support resources; and participation in ongoing professional development.

The assignment may be day, evening, weekend, online, hybrid, or off campus and is subject to change as needed. The ideal candidate for this position embraces the overall mission of Coastline College and the Coast Community College District, with a clear, focused commitment to supporting individualized student and employee goals through the work of Geology.

The Physical Sciences Department shares Coastline's commitment to equitable outcomes; inclusive practices; and racial, ethnic, and socioeconomic diversity. Ideal candidates for this position share Coastline's devotion to educating and improving the lives of our representative student, employee, and community populations.

The Physical Sciences Department at Coastline serves students bound for transfer and in service of career and technical programs. We encourage innovative teaching and as well as student and faculty engagement outside of the classroom. The department promotes faculty work on student research and projects, in community engagement and in partnerships with local institutions to promote STEM engagement for

underserved populations. The ideal candidate for this position embraces the equitable campus climate of student engagement and academic inquiry, as represented by the mission of Coastline College and the Coast Community College District.

Examples of Duties: Duties may include, but are not limited to, the following:
1. Provide instruction in **Geology** in accordance with established course outlines.
2. Provide leadership in the development and revision of **Geology** curriculum responsive to the students served.
3. Participate in curriculum development, implementation, and evaluation; participate in and develop programs to measure student performance.
4. Maintain current knowledge in the subject matter areas.
5. Maintain appropriate standards of professional conduct and ethics.
6. Fulfill the professional responsibilities of a full-time faculty member including, but not limited to the following: teach all scheduled classes unless excused under provisions of Board Policy; follow the department course outlines; keep accurate records of student enrollment, attendance, and progress; submit student grades according to established deadlines; post and maintain scheduled office hours; participate in departmental meetings and college and/or district-wide activities and committees as assigned.
7. Assignment may include day, evening, weekend, and online sections.

QUALIFICATIONS AND PHYSICAL DEMANDS:

Minimum Qualifications:

- Master's in geology, geophysics, earth sciences, meteorology, oceanography or paleontology OR Bachelor's in geology **AND** Master's in geography, physics, or geochemistry **OR** meet the equivalent qualifications established by the District, **OR** possession of a California Community Colleges Teaching Credential.
- Evidence of responsiveness to and understanding of the racial, ethnic, disability, gender identity, sexual orientation, socioeconomic, academic and cultural diversity within the community college student population, including students with different ability statuses (e.g., physical and/or learning) as these factors relate to the need for equity-minded practice within the classroom.
- Ability to contribute to campus and district-wide professional responsibilities and activities.
- Ability to complement existing staff, student and community demographics in terms of professional and personal skills.

Preferred Qualifications:

- Evidence of teaching experience in at least two of the following areas: Earth Science, Physical Geology, Historical Geology, Environmental Geology, Coastal Geology.
- A minimum two years of recent experience teaching at the post-secondary level, preferably including online courses.
- Evidence of an ability to lead geology related field trips for majors and non-majors.

- Evidence of an ability to incorporate GIS, GPS and/or LIDAR into laboratory coursework.
- Evidence of involvement in geology and physical science education such as: Participation in committees, conferences, and workshops; memberships in professional organizations; design, review, and evaluation of curriculum; professional developmental activities; applications of physical science outside the classroom.
- Evidence of an ability to address the instructional needs of a diverse and frequently underprepared student population.
- Evidence that demonstrates a strong commitment to quality teaching, student success and academic excellence.
- Ability to work with computers, and use the Internet and interactive technologies to engage students in on-campus and online courses; where academically appropriate.
- Recent experience working with African American, Latinx, Native American, and other racially minoritized students in the classroom, and an understanding of how historical patterns of exclusion of these groups within higher education and the field of Geology shape patterns of participation and outcomes.
- Willingness to examine and re-mediate one's instructional, relational, and classroom practices to more effectively engage and support racially minoritized students.
- Experience and skill with addressing issues of equity in the classroom.
- Experience and expertise in culturally responsive teaching in Geology, particularly as it relates to the relevance of Geology to students' lives, interests, and communities.
- Demonstrated ability to address equity gaps within Geology courses and classrooms.

- Evidence of an ability to self-reflect and respond to an evidenced-based assessment of student learning.
- Desire and demonstrated ability to participate actively in department, division, and college committees and in the shared governance of Coast Community College District.
- Desire and evidence of an ability to take on leadership roles both within the department and in the institution as a whole.
- Evidence of an ability to communicate effectively both orally and in writing.

COAST COMMUNITY COLLEGE DISTRICT
invites applications for the position of:

Instructor, Physics

SALARY: $50,519.00 - $120,442.00 Annually

OPENING DATE: 12/12/17

CLOSING DATE: 01/24/18 11:59 PM

DEFINITION:

POSITION BACKGROUND

Orange Coast College (OCC) is seeking a full-time, equity-minded, tenure track faculty member in Physics commencing with the 2018 fall semester. The primary teaching assignment involves all areas of Physics – a range of physics lecture and laboratory courses from conceptual physics through algebra and calculus based physics. This assignment also includes curriculum and program development, participation in department, division, college committees, and participatory governance activities assuming leadership roles both within the department and in the institution as a whole; collaboration across disciplines and the leveraging of student support resources; and participation in ongoing professional development.

The assignment may be day, evening, weekend, online, hybrid, or off campus and is subject to change as needed. The ideal candidate for this position embraces the overall mission of Orange Coast College and the Coast Community College District, with a clear, focused commitment to supporting individualized student and employee goals through the work of Physics.

The Physics Department shares OCC's commitment to equitable outcomes; inclusive practices; and racial, ethnic, and socioeconomic diversity. Ideal candidates for this position share OCC's devotion to educating and improving the lives of our representative student, employee, and community populations. We currently enroll 22,285 students, the majority of whom are from racially minoritized populations: 35% of OCC's students are Latinx, 2% are African-American, 21% are Asian, less than 1% Native American, 32% are White, and 6% are multiracial. Faculty have the opportunity to enhance their classroom methods during two professional development days during the academic year, which include learning sessions like "Digital Accessibility", "Basic Skills: Helping students help themselves" and "Taking a skills based approach to teaching college students". Student centered activities that support OCC's mission include campus wide student success projects funded by the Office of Student Equity; partnerships with local Hispanic Serving four year institutions; active programs that work to improve the academic achievement of racially minoritized students, such as PUENTE and UMOJA; Extended Opportunity Programs and Services (EOPS) and Disabled Student Program and Services (DSPS).

The Physics Department located in the Mathematics and Sciences Division at Orange

Coast College serves students bound for transfer and in service of career and technical programs. The full and part time faculty offer more than 40 lecture and laboratory sessions per semester, and engage students outside the classroom in events such as Science Night. As a Division, we encourage innovative teaching and as well as student and faculty engagement outside of the classroom. The Division promotes faculty work on student research and projects, in community engagement and in partnerships with local institutions to promote STEM engagement for underserved populations. The ideal candidate for this position embraces the equitable campus climate of student engagement and academic inquiry, as represented by the mission of Orange Coast College and the Coast Community College District.

Examples of Duties: Duties may include, but are not limited to, the following:
1. Provide instruction in the Physics courses and their associated laboratories in accordance with established course outlines.
2. Provide leadership in the development and revision of Physics curriculum responsive to the students served.
3. Participate in curriculum development, implementation, and evaluation; participate in and develop programs to measure student performance.
4. Maintain current knowledge in the subject matter areas.
5. Maintain appropriate standards of professional conduct and ethics.
6. Fulfill the professional responsibilities of a full-time faculty member including, but not limited to the following: teach all scheduled classes unless excused under provisions of Board Policy; follow the department course outlines; keep accurate records of student enrollment, attendance, and progress; submit student grades according to established deadlines; post and maintain scheduled office hours; participate in departmental meetings and college and/or district-wide activities and committees as assigned.
7. Assignment may include day, evening, weekend, and online sections.

QUALIFICATIONS AND PHYSICAL DEMANDS:

Minimum Qualifications:

- Master's in physics, astronomy or astrophysics **OR** Bachelor's in physics or astronomy **AND** Master's in engineering, mathematics, meteorology or geophysics **OR** meet the equivalent qualifications established by the District, **OR** possession of a California Community Colleges Teaching Credential.
- Evidence of responsiveness to and understanding of the racial, ethnic, disability, gender identity, sexual orientation, socioeconomic, academic and cultural diversity within the community college student population, including students with different ability statuses (e.g., physical and/or learning) as these factors relate to the need for equity-minded practice within the classroom.
- Ability to contribute to campus and district-wide professional responsibilities and activities.
- Ability to complement existing staff, student and community demographics in terms of professional and personal skills.

Preferred Qualifications:

- Possession of a Master's or Doctorate degree in Physics.

- A minimum of two years of recent experience teaching Physics at the post-secondary level.
- Recent experience and demonstrated abilities in teaching lectures and associated laboratories in college-level Physics, preferably at several levels which may include general education Physics, and Calculus-based Physics for science majors.
- Recent experience in using a variety of modern physics instrumentation and computer-based applications for the Physics curriculum.
- Experience or training that illustrates familiarity with current theories and methodologies for teaching Physics.
- Desire and demonstrated ability to participate actively in department, division, and college committees and in the shared governance of Coast Community College District.
- Evidence of an ability to address the instructional needs of a diverse and frequently underprepared student population.
- Evidence of an ability to adapt teaching pedagogy to the knowledge level (developmental through transfer) and personality of each individual and class.
- Evidence of outstanding achievement as a student or instructor, or other special qualifications, awards, publications, workshops, etc.
- Evidence of participation in student success initiatives in a post-secondary setting.
- Recent experience working with African American, Latinx, Native American, and other racially minoritized students in the classroom, and an understanding of how historical patterns of exclusion of these groups within higher education and the field of Physics shape patterns of participation and outcomes.
- Willingness to examine and re-mediate one's instructional, relational, and classroom practices to more effectively engage and support racially minoritized students.
- Experience and skill with addressing issues of equity in the classroom.
- Experience and expertise in culturally responsive teaching in Physics, particularly as it relates to the relevance of Physics to students' lives, interests, and communities.
- Demonstrated ability to address equity gaps within Physics courses and classrooms.
- Evidence of an ability to self-reflect and respond to an evidenced-based assessment of student learning.
- Desire and demonstrated ability to participate actively in department, division, and college committees and in the shared governance of Coast Community College District.
- Desire and evidence of an ability to take on leadership roles both within the department and in the institution as a whole.
- Ability to work with computers, and use the Internet and interactive technologies to engage students in on-campus and online courses (where academically appropriate).
- Evidence of an ability to communicate effectively both orally and in writing.

CONDITIONS OF EMPLOYMENT:

For a full-time, two-semester position a maximum starting range of $50,519 to $86,130 is offered, based on the 2017-18 salary schedule of $50,519 to $120,442. In addition, an annual stipend of $2,946 is offered for possession of an earned doctorate from an accredited institution. The District provides medical, dental, and vision insurance for the employee and eligible dependents and life insurance for the employee.

- Regular attendance is considered an essential job function; the inability to meet attendance requirements may preclude the employee from retaining employment.
- The person holding this position is considered a mandated reporter under the California Child Abuse and Neglect Reporting Act and is required to comply with the requirements set forth in Coast Community College District policies, procedures, and Title IX. (Reference: BP/AP 5910)
- The Coast Community College District celebrates all forms of diversity and is deeply committed to fostering an inclusive environment within which students, staff, administrators, and faculty thrive. Individual's interested in advancing equity and inclusion goals are strongly encouraged to apply. Reasonable accommodations will be provided for qualified applicants with disabilities who self-disclose.

Physical Abilities

- Requires the ability to function in a classroom and/or office environment performing work of primarily a sedentary nature with some requirement to move to about the classroom, campus and off-campus locales. Requires the ability to use hearing and speech to make presentations to groups and carry on conversations over the phone and in person. Requires speaking skills to communicate with staff and students in on-on-one and small group settings, on the phone, and to distinguish sound prompts from various types of equipment. Requires near visual acuity to read printed materials and computer screens. Requires sufficient hand/arm/finger dexterity to retrieve work materials, operate a personal computer keyboard, and operate standard office equipment. Requires the ability to lift and/or move up to 25 pounds.

Working Conditions

- Work is performed indoors where minimal safety considerations exist.

ADDITIONAL INFORMATION:

ATTENTION: Before applying, please be sure to review the Coast Colleges District Board Policy regarding Nepotism (BP 7310) to check if your application may be impacted. If you have any questions, please contact HR Recruitment at 714-438-4714 or 714-438-4716.

APPLICATION REQUIREMENTS

To be considered for employment you must submit a COMPLETE application packet. A complete application packet includes:

- District online application
- Responses to supplemental questions (please provide clear and detailed responses as they will be carefully evaluated to determine the most qualified candidate(s) to be invited for an interview; please do not paste your resume, or put "see resume" or "N/A", or leave blank).
- Cover letter addressing the addressing why you are interested in teaching physics at a community college.
- Resume
- *Equivalency Request Form* and supporting documentation (if applicable) Candidates who are applying with minimum qualifications on the basis of equivalency must submit a completed Application for Equivalency Form (which can be downloaded here with supporting documentation, in addition to all other required materials.
- Documents not requested in the job announcement will not be considered.

Submission of all required application information and materials is the responsibility of the applicant.

Individuals who need reasonable accommodations in accordance with ADA should notify the Human Resources Office for assistance or call 714.438.4716 or 714.438.4714.

Information for TDD users is available by calling (714) 438-4755.

APPLICATION PROCEDURES:
Applications must be received no later than the posted closing date. There are **NO EXCEPTIONS**. Electronic applications may be completed by visiting www.cccd.edu/employment. Required materials differ for each open position and must be complete when submitted for a specific posting. Instructions for completing applications and applying to posted positions are available online or by calling Recruitment at (714) 438-4716.

All application materials become the property of the Coast Community College District and will NOT be copied or returned.

To ensure consistency and fairness to all applicants, please do not submit materials in addition to those requested. Additional materials will not be considered or returned. Any documents that you are unable to attach can be faxed to (714) 782-6065. Faxes must clearly indicate your name and the job to which you are applying.

SELECTION PROCEDURE

1. All online applications received by the deadline date will be screened to determine which applicants meet the minimum qualifications as stated in the job announcement. Please note: Possession of the minimum qualifications does not ensure an interview.
2. Applicants who meet the minimum qualifications and who are also deemed to possess the highest degree of desirable qualifications will be invited discuss

their qualifications in an interview to the college. If any travel is required for an applicant to participate in person during the interview process, this will be done so at the candidate's own expense. During the campus visit, each candidate will be interviewed and may be asked to conduct a short teaching demonstration/presentation on a previously announced topic as well as participate in a writing exercise and/or hands-on practical.

3. The search committee will rate the candidate's responses to the interview questions, the demonstration/presentation, and the applicable writing exercises and/or hands-on practical.
4. Based on this rating, a number of candidates will be recommended to move forward and will be invited to the campus for a second level interview.
5. The campus President will make the final recommendation for employment to the Board of Trustees.
6. The successful candidate will be offered the position and placed on the current salary schedule based on their education and experience.
7. The start date will be determined by the hiring manager depending on the needs of the campus and the conditions of employment as posted in the job announcement/recruitment.

EMPLOYMENT INFORMATION

- To be considered in the initial committee review, all materials requested in this vacancy notice must be received no later than the filing deadline. Submission of all application materials is the responsibility of the applicant.
- The District does not contact nor employ outside agencies or headhunters to assist us in the faculty recruitment process.
- Applicants wishing to apply for more than one position must submit separate application materials for each desired position.
- During the interview process, consideration will be given to factors in addition to education and experience, including but not limited to: professional development, ability to work with others, and commitment to meet student needs.
- Applicants who are eliminated from consideration will be notified by email. All applicants are requested to provide an email address in their online application.
- Candidates should not expect official notification of the status of their candidacy until the Board of Trustees has acted upon the College's recommendation for employment.
- The District reserves the right to contact the current or most recent employer and to investigate past employment records of applicants selected for interviews.
- The District reserves the right to extend the deadline, re-advertise the position or delay filling this position based on the needs of the District and the student population we serve.
- The College does not return materials submitted in the application for a position. (Copies of original supporting documents are acceptable).
- Official transcripts will be requested by Human Resources during the 'new hire' process.

The Coast Community College District is a multi-college district that includes Coastline Community College, Golden West College, and Orange Coast College. The three colleges offer programs in transfer, general education, occupational/technical education, community services and student support services. Coastline, Golden West and Orange Coast Colleges enroll more than 60,000 students each year in more than 300 degree and certificate programs.
Since its founding in 1947, the Coast Community College District has enjoyed a reputation as one of the leading community college districts in the United States. Governed by a locally elected Board of Trustees, the Coast Community College District plays an important role in the community by responding to needs of a changing and increasingly diverse population.

THE COAST COMMUNITY COLLEGE DISTRICT IS AN EQUAL OPPORTUNITY EMPLOYER:
The Coast Community College District is committed to employing qualified administrators/managers, faculty, and staff members who are dedicated to student learning and success. The Board recognizes that diversity in the academic environment fosters awareness, promotes mutual understanding and respect, and provides suitable role models for all students. The Board is committed to hiring and staff development processes that support the goals of equal opportunity and diversity, and provide equal consideration for all qualified candidates. The District does not discriminate unlawfully in providing educational or employment opportunities to any person on the basis of race, color, sex, gender identity, gender expression, religion, age, national origin, ancestry, sexual orientation, marital status, medical condition, physical or mental disability, military or veteran status, or genetic information.

Coast Colleges is an Equal Opportunity Employer

APPLICATIONS MAY BE FILED ONLINE AT:
http://www.cccd.edu

Position #3-O-19
INSTRUCTOR, PHYSICS
ER

1370 Adams Avenue
Costa Mesa, CA 92626
714-438-4714
714-438-4716

jobs@cccd.edu

Instructor, Physics Supplemental Questionnaire

* 1. Are you applying for equivalency? (A completed Application for Equivalency Form with supporting documentation MUST BE ATTACHED if you do not possess the minimum qualifications for this discipline as listed in the job posting. The Equivalency Application Form can be downloaded at www.cccd.edu/employment.)

No, I am not applying for equivalency because I already possess the minimum qualifications for this discipline area as listed in the job posting.

No, I am not applying for equivalency because I was already granted equivalency in this discipline area by Coastline College, Golden West College and/or Orange Coast

College.

Yes, I have ATTACHED my completed Application for Equivalency Form (downloadable at www.cccd.edu/employment) with supporting documentation included, for review.

* 2. If you were previously granted equivalency in this discipline area by a CCCD college, please specify: (1) the discipline(s) (2) from which college(s) equivalency was granted, and (3) when equivalency was granted. (Please type "N/A" if this question does not apply to you.)

* 3. List recent teaching assignments you've had in Physics including the courses taught and where you taught. Specify the level of the course (freshman, sophomore, etc.) and the number of times you have taught the course.

* 4. Please share examples that demonstrate your ability to use a range of instructional strategies to help you overcome the challenges of working with students who have varied preparation and learning styles. Consider both lecture and lab settings.

* 5. What is the value of including laboratory experiences in the curriculum in Calculus based physics? Why?

* 6. Describe your experience working with students and/or faculty colleagues outside of the classroom? If hired, what 5 year goal will you set for yourself in terms of department and campus engagement?

* 7. Please describe any industry or practical experience you've had and how you would incorporate your industry or real-world experience into the classroom?

* 8. What is one accomplishment you are most proud of in your career? Why?

* 9. Teaching Philosophy Statement (must include discussion of the following questions): 1. What do you feel are the best strategies for supporting racially minoritized students? 2. What role should faculty play in student success? 3. Think of the most successful class you have taught. What were the key factors in creating that success, particularly for African American, Latinx, Asian American and Native American students? 4. Describe how your teaching approach has changed over the years. Provide examples of what motivated the change(s).

* 10. I understand that a COMPLETE application packet is required for consideration, which includes the following: 1. A completed Coast Community College District Online Employment Application 2. A current resume (uploaded as a separate attachment - PDF recommended) 3. A cover letter (uploaded as a separate attachment - PDF recommended) 4. Clear and detailed responses to all supplemental questions (required for evaluation purposes)

Yes No

* Required Question