

# COASTLINE COLLEGE

2018-2019  
Annual Program Review

Mathematics

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# Section 1: Program Planning:

## Internal Analysis

Productivity	2014-15	2015-16	2016-17
College State-Funded Enrollment	61,418	64,029	60,242
Mathematics Enrollment	5,030	5,608	5,668
College Student Resident FTES	6,073.20	6,343.35	5,928.76
Mathematics Resident FTES	596.58	667.23	680.69
Sections	124	159	154
Fill Rate	78.7%	73.0%	76.4%
WSCH/FTEF 595 Efficiency	568	511	515
FTEF/30	17.5	21.9	22.5
Extended Learning Enrollment	1,101	1,127	995

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

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

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

The percentage change in the **FTEF/30** ratio for Mathematics 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 Mathematics **Extended Learning enrollments** in 2016-17 from 2015-16 and a moderate decrease from 2014-15.

<b>Comparison of Enrollment Trends</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
College State-Funded Enrollment	61,418	64,029	60,242
Mathematics Enrollment	5,030	5,608	5,668

<b>Modality</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
Traditional	10.8%	11.3%	8.9%
Online	77.0%	72.8%	71.3%
Hybrid	0.0%	1.2%	1.4%
Correspondence (Cable, Telecourse, Other DL)	12.1%	14.7%	18.3%

<b>Gender</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
Female	54.8%	51.1%	49.5%
Male	43.6%	47.3%	48.8%
Unknown	1.6%	1.6%	1.6%

<b>Ethnicity</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
African American	5.7%	6.2%	6.6%
American Indian/AK Native	0.3%	0.5%	0.5%
Asian	27.8%	23.9%	22.3%
Hispanic	14.4%	16.7%	16.3%
Pacific Islander/HI Native	0.3%	0.2%	0.4%
White	35.5%	35.5%	36.0%
Multi-Ethnicity	14.6%	15.6%	16.7%
Other/Unknown	1.4%	1.5%	1.2%

<b>Age Group</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
19 or Less	11.8%	13.5%	13.4%
20 to 24	31.2%	28.7%	29.3%
25 to 29	18.7%	18.1%	17.4%
30 to 34	11.5%	12.2%	10.7%
35 to 39	7.0%	7.8%	8.3%
40 to 49	10.5%	10.3%	12.0%
50 and Older	9.3%	9.3%	8.9%

Mathematics courses made up 9.4% of all state-funded enrollment for 2016-17. The percentage difference in Mathematics course **enrollment** in 2016-17 showed a substantial decrease from 2015-16 and a substantial decrease from 2014-15. Enrollment in Mathematics during 2016-17 showed 8.9% of courses were taught **traditional (face-to-face)**, 71.3% were taught **online**, 1.4% were taught in the **hybrid** modality, and 18.3% were taught in the **correspondence (cable, telecourse, and other distance learning)** modality.

In 2016-17, Mathematics enrollment consisted of 49.5% **female**, 48.8% **male**, and 1.6% students of **unknown** gender. In 2016-17, Mathematics enrollment consisted of 6.6% **African American** students, 0.5% **American Indian/AK Native** students, 22.3% **Asian** students, 16.3% **Hispanic** students, 0.4% **Pacific Islander/HI Native** students, 36.0% **White** students, 16.7% **multi-ethnic** students, and 1.2% students of **other** or **unknown** ethnicity. The age breakdown for 2016-17 enrollments in Mathematics revealed 13.4% aged **19 or less**, 29.3% aged **20 to 24**, 17.4% aged **25 to 29**, 10.7% aged **30 to 34**, 8.3% aged **35 to 39**, 12.0% aged **40 to 49**, and 8.9% aged **50 and older**.

<b>Awards</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
College Awarded Degrees	1,882	2,109	2,220
Mathematics Degrees	3	2	4
Letters and Arts: Math and Science	122	154	147
College Awarded Certificates	748	644	602
Mathematics Certificates	0	0	0

The percentage change in the number of Mathematics **degrees** awarded in 2016-17 showed a substantial increase from 2015-16 and a substantial increase from the number of degrees awarded in 2014-15.

The percentage change in the number of Mathematics **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.

<b>Comparison of Success Rates</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
College State-Funded Success Rate	65.4%	66.7%	68.1%
College Institution Set Standard Success Rate	55.3%	55.4%	56.7%
Mathematics Success Rate	59.1%	59.0%	58.1%

<b>Modality</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
Traditional	68.9%	62.4%	63.8%
Online	57.6%	57.4%	56.9%
Hybrid	-	58.0%	55.6%
Correspondence (Cable, Telecourse, Other DL)	59.5%	64.2%	60.4%

<b>Gender</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
Female	59.3%	57.6%	56.7%
Male	58.9%	60.5%	59.6%
Unknown	57.3%	62.2%	58.7%

<b>Ethnicity</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
African American	46.0%	44.7%	39.8%
American Indian/AK Native	46.2%	55.6%	50.0%
Asian	70.7%	69.9%	69.2%
Hispanic	49.0%	50.5%	51.6%
Pacific Islander/HI Native	20.0%	38.5%	56.5%
White	59.4%	60.6%	62.7%
Multi-Ethnicity	52.6%	52.8%	47.2%
Other/Unknown	52.9%	67.5%	61.2%

<b>Age Group</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
19 or Less	61.8%	62.6%	57.8%
20 to 24	57.3%	54.2%	57.8%
25 to 29	57.2%	58.0%	56.4%
30 to 34	58.6%	59.2%	58.2%
35 to 39	56.9%	61.7%	56.5%
40 to 49	59.1%	60.9%	59.6%
50 and Older	67.8%	65.9%	62.6%

The percentage difference in the **course success rate** in Mathematics courses in 2016-17 showed a slight decrease from 2015-16 and a slight decrease from 2014-15. When comparing the percentage point difference in the Mathematics 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 Mathematics **course success rate** was moderately lower than the **college average** and slightly higher than the **institution-set standard\*** (56.6%) for credit course success.

When comparing the percentage point difference between instructional modalities to the overall Mathematics success rate for 2016-17, the success rate was moderately higher for **traditional (face-to-face)** Mathematics courses, slightly lower for **online** courses, slightly lower 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 Mathematics success rate for 2016-17, the success rate was slightly lower for **female** students in Mathematics courses, slightly higher for **male** students, and minimally different for students of **unknown** gender.

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

When comparing the percentage point difference between age groups to the overall Mathematics success rate for 2016-17, the success rate was minimally different for students aged **19 or less** in Mathematics courses, minimally different for students aged **20 to 24**, slightly lower 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 slightly higher for students aged **50 and older**.

<b>Comparison of Retention Rates</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
College State-Funded Retention Rate	85.7%	86.1%	85.8%
College Institution Set Standard Retention Rate	70.1%	69.9%	73.2%
Mathematics Retention Rate	78.1%	76.9%	76.5%

<b>Modality</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
Traditional	88.4%	84.0%	80.9%
Online	76.3%	75.3%	76.0%
Hybrid	-	75.4%	75.3%
Correspondence (Cable, Telecourse, Other DL)	79.8%	79.2%	76.3%

<b>Gender</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
Female	78.4%	76.6%	76.9%
Male	77.5%	77.0%	75.8%
Unknown	81.7%	81.1%	83.7%

<b>Ethnicity</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
African American	71.9%	73.5%	65.1%
American Indian/AK Native	69.2%	74.1%	80.8%
Asian	84.4%	81.5%	82.6%
Hispanic	73.3%	74.2%	71.7%
Pacific Islander/HI Native	66.7%	69.2%	69.6%
White	78.3%	77.5%	79.1%
Multi-Ethnicity	73.5%	72.5%	72.0%
Other/Unknown	68.6%	78.3%	77.6%

<b>Age Group</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
19 or Less	80.9%	82.9%	80.9%
20 to 24	78.8%	74.9%	78.6%
25 to 29	75.9%	75.3%	74.6%
30 to 34	77.3%	76.8%	75.1%
35 to 39	74.7%	75.9%	70.4%
40 to 49	74.6%	76.1%	74.8%
50 and Older	83.7%	78.9%	76.3%

The percentage difference in the **retention rate** in Mathematics courses in 2016-17 showed minimal difference from 2015-16 and a slight decrease from 2014-15. When comparing the percentage point difference in the Mathematics 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 Mathematics **retention rate** was moderately lower than the **college average** and slightly higher than the **institution-set standard\*** for credit course success.



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

When comparing the percentage point difference between genders to the overall Mathematics retention rate for 2016-17, the retention rate was minimally different for **female** students in Mathematics 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 Mathematics retention rate for 2016-17, the retention rate was substantially lower for **African American** students in Mathematics courses, slightly 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, slightly higher for **White** students, slightly lower for **multi-ethnic** students, and slightly higher for students of **other or unknown** ethnicity.

When comparing the percentage point difference between age groups to the overall Mathematics retention rate for 2016-17, the retention rate was slightly higher for students aged **19 or less** in Mathematics 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 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%

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

There were no responses to the 2017-2018 post-graduate survey for the Mathematics Program shows that there was an increase in the percent of students indicating to be confident and able to use scientific and quantitative reasoning.

The plan is to develop support courses as the college transitions to meet the standards of AB 705. Attached are the SLO findings. The faculty discuss SLO assessment and learning practices on a consistent basis.

## 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
Math 047	Spring 2018	Approved new course

## Progress on Initiative(s)

Table Progress on Forward Strategy Initiatives

Initiative(s)	Status	Progress Status Description	Outcome(s)
Hire two full-time math instructors due to the top ranking of FTEs, 14.8, in the entire college and 147 LHEs taught by adjunct instructors.	Completed	2015-2016 a new math faculty was hired and a second was hired in 2016-2017	The college was able to offer more math courses. There has been an increase in courses offered.
Establish Math Academy or Bridge Program in summer and winter sessions to prepare students before classes start; and to increase the math success and retention rate, especially for STAR and STAR2 programs.	Completed	In summer 2015, a math boot camp was held at NBC to help incoming students. In 2016-17, the program is still running well.	The results were that students placed into higher math courses. However, the labs need to be longer to cover more material.
Create "Pathway" curriculum to help students succeed in college level math courses at a faster pace.	Completed	The math faculty created Coastline pathways and has approved it and is waiting for state approval.	Offering courses fall 2017
Acquire a mobile "smart cart" with laptops, printer and wifi at Newport Beach Center for math classrooms.	Completed	All smartboards have been installed and a smartcart was purchased	Courses in spring 2017 started using the smartcart
Develop a system to mentor and evaluate new math instructors, especially online.	Completed	Discussions at all college meetings have occurred around that evaluation of math instructors. There is now an on-boarding and	There has been an increase in higher quality courses. The faculty to develop master courses

Initiative(s)	Status	Progress Status Description	Outcome(s)
		mentoring process for new math faculty	
Create a dedicate Math Lab for math students. In the student survey, one of the suggestions for the Student Success Center tutoring was to have a quiet place to study. Currently, the Center has English and other subjects' tutoring in the same room.	Not started	Currently the math and English are together in the Success Center	N/A
Math tutors shall be recommended by math instructors or interviewed by a math instructor prior to hiring.	Completed	Discussion have occurred with Student Success faculty. Will keep collaborating with the SSC faculty. Faculty sent questions SSC faculty to use in interview.	Tutor quality is increasing.
Develop and plan a system of an efficient online tutoring; improve online embedded tutoring services; provide a coordinator for this effort; implement a system that allows the Student Success Center to track individual student assistance and sends that information to each instructor as well as sending student success center use by math students to the department.	Completed	In spring 2015 a math coordinator was assigned	Though there was direction given from the coordinator, there need to be a better planning to effectively use the support services.
Discuss implementation of a STEM or STEAM Program and provide appropriate permanent office space for full-time faculty at the Newport Beach Center.	Completed	6 offices were opened spring 2017	Faculty are using the offices.
Provide more technology training programs for math faculty.	Completed	2014-2015 PIEAC and budget allocated professional development funds to explore new trainings. In 2015-2016 the instructors attended annual national conferences. In 2016-17 the faculty attended three conferences	The instructor learned of newer technology and strategies in their courses for flipping courses
Participate with the college bookstore and the textbook publishing companies to help lower the cost of textbooks to students, and to more clearly outline all the options available to students for instructional materials; investigate free or low-cost online educational resources to help lower the cost of textbooks to students.	Completed	In spring 2015 the math faculty met at the All-College Meeting in a breakout discipline focused session where discussion occurred around the textbook. In 2015-2016 the faculty have been reviewing OER	Faculty are in courses using OER which has reflected in higher retention and success.

Initiative(s)	Status	Progress Status Description	Outcome(s)
		textbooks. The program invested in OER in 2016-17.	
Equip classrooms where math is taught with furniture and equipment that promote active learning, such as mobile chairs with laptops and individual student whiteboards.	In-progress	The college purchased student whiteboards and there is a 2015-2016 request going to budget for approval. In 2016-17 it was requested but not funded. In 2017-18 it was requested but not funded.	N/A
Modify the math placement system to include a student's recent performance in math classes that do not transfer (such as high school students).	Completed	Multiple measures have been piloted in summer 2015 and are awaiting courses performance results in fall 2015. Multiple measures are getting approved at Academic Senate for implementation in summer 2017.	Students are being placed MMAP

### 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 program meets twice a term to discuss the SLOs with all of the full-time and part-time faculty. Every other week (Fridays) there is a lunch meeting to discuss the program, innovative practices, problem solving and general operations.

### Implications of Change

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

To meet the standards of AB 705, the math faculty are in collaboration to develop different math pathways to ensure that students can complete transfer-level math within one year. This effort will require curriculum redesign, faculty professional development, and adoption of supplement lab courses and embedded support to ensure students are effectively learning.

Additionally, as the college move towards guided pathways, there is a continuous need to meet the general education requirement of quantitative reasoning and provide additional support to the continuous development of supplemental and contextualized courses.

## 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		5	26		
Current year 2018-19	Dean		5	30		
1 year 2019-20	Dean		6	25		
2 years 2020-21	Dean		6	25		
3 years 2021-22	Dean		6	30		

In 2015-2016 a new full-time faculty member was hired and started in fall 2016. In 2017-18 a position was request but not funded. It is anticipated that there will be growth in the part-time pool in two to three years and the growth in college enrollments and pathways supports the need for new full-time positions in 2018-19 and 2020-2021. Additionally, as the college move towards guided pathways, there is a continuous need to meet the general education requirement of quantitative reasoning and provide additional support to the continuous development of supplemental and contextualized courses. Therefore, there is a need at add an additional full-time faculty member.

### 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
L. Lee, F. Feldon, S. Nguyen	AMATYC conference	Learned about acceleration strategies and guided pathways
L. Lee., F. Feldon, M. Alves	CAP	Learned about AB 705 and pathways
L. Lee., F. Feldon, C. Tran	CMC <sup>3</sup>	Learned about AB 705
L. Lee, C. Tran	OER Conference	Learning about new resources and funding

In 2017-2018 full-time and part-time faculty members were able to participate in national conferences focused on creating innovative and interactive materials and course experiences. To support the College's plans to increase student academic performance and alleviate access barriers, it would be essential to continue to send math faculty to more professional learning opportunities. To follow this plan, the faculty are interested in participating in the national math pathway workshop. The additional focus of the conferences were on strategies to align with AB 705.

## **Section 3: Facilities Planning**

### **Facility Assessment**

Currently, math is taught at all college learning centers, Early College High School, online and in the telecourse modality. Based on a request in 2015-16, in spring 2017, an office suite was developed for the full-time faculty at the Newport Beach Center. An ongoing request since 2014-15 is to invest in mobile classroom furniture to promote an active learning environment.

## **Section 4: Technology Planning**

### **Technology Assessment**

Based on a request in 2015-16, in fall 2016, the college purchased and installed laptops and a storage cart at the Newport Beach Center. Through the utilization of Bond Measure M funds, all the learning centers have been updated with smartboard technology to support a more innovative learning environment. To support student access to high quality handouts and support materials, the faculty are seeking to obtain a color scanner to be share in the math faculty office.

## Section 5: New Initiatives

**Initiative:** Equip classrooms where math is taught with furniture and equipment that promote active learning, such as mobile chairs with laptops and individual student whiteboards.

**Describe how the initiative supports the college mission:**

This promotes advancement of innovative learning environments that promote student success.

**What college goal does the initiative support?** Select one

X Student Success, Completion, and Achievement

X Instructional and Programmatic Excellence

Access and Student Support

X Student Retention and Persistence

X 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.

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 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.**

External research shows that creating active learning environment drives student engagement and academic performance.

**Recommended resource(s) needed for initiative achievement:**

30 mobile desks

**What is the anticipated outcome of completing the initiative?**

Increased success and retention in math courses.

**Provide a timeline and timeframe from initiative inception to completion.**

Purchase in summer 2018 and install in fall 2018

**Initiative:** Increase program effectiveness and continue meet student demand for math courses and additionally to develop contextualized courses.

**Describe how the initiative supports the college mission:**

Help continue the sustainability of the program and support student success through the development and support of innovative math courses, programs, and pathways.

**What college goal does the initiative support? Select one**

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**

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 this initiative? Select all that apply**

Learning Outcome (SLO/PSLO) assessment

Internal Research (Student achievement, program performance)

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

**Describe how the evidence supports this initiative.**

Internal research shows that math is an integral part of student pathways to degrees and transfer. Additionally, data shows a major increase in math enrollment. However, with a focus to increase quality, expand programs/ degrees and student success, it essential that this position be hired to help meet that need.

**Recommended resource(s) needed for initiative achievement:**

FT math faculty member

**What is the anticipated outcome of completing the initiative?**

Increased success and retention in math courses.

**Provide a timeline and timeframe from initiative inception to completion.**

Present at Academic Senate in fall 2017, hire in spring 2018 and have the position start in fall 2018



## 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
Equip classrooms where math is taught with furniture and equipment that promote active learning, such as mobile chairs with laptops and individual student whiteboards.	Moveable furniture		One-time	No	External Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence; Access and Student Support; Student Retention and Persistence;	2019-20	
Increase program effectiveness and continue meet student demand for math courses and additionally to develop contextualized courses.	Full-time faculty		Ongoing	No	Internal Research, External Research	Student Success, Completion, and Achievement; Instructional and Programmatic Excellence; Access and Student Support; Student Retention and Persistence; Culture of Evidence, Planning, Innovation, and Change	2019-20	

### 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.

APPENDIX

**COURSE SLO ASSESSMENT REPORT, Coastline Community College**

**Department:** Math

**Semester:** Spring 2017

**Course:** Liberal Arts Math, Math C100, CRN #92680 16-Weeks Online; and CRN #92682 8-Weeks Online

**Faculty Member:** Fred Feldon

Course SLO	Method of Assessment	Outcomes	Recommendations
<p>Upon completion of the course students will be able to:</p> <ol style="list-style-type: none"> <li>Apply mathematics and quantitative reasoning to management of personal finance and other real-world applications.</li> </ol>	<p>Midterm Exam, Final Exam, and final course grade</p>	<p>CRN #92680:            80% Successfully achieved Outcome            3 % Partially achieved Outcome            17% Did not achieve Outcome</p> <p>CRN #92682:            67% Successfully achieved Outcome            0 % Partially achieved Outcome            33% Did not achieve Outcome</p> <p><i>Total:</i>            74% Successfully achieved Outcome            0% Partially achieved Outcome            26% Did not achieve Outcome</p>	<p>After gathering evidence, reviewing and interpreting results, I recommend for next semester:</p> <ol style="list-style-type: none"> <li>Research pedagogy, techniques, and support systems that might help students in accelerated of successfully completing the course.</li> <li>Create custom instructional aids such as videos for students that cover the specific topics and content most frequently missed which lower their scores on assessments, such as expected value, logarithmic and exponential functions, logistic growth, and confusing saving plan formulas with loan payment formulas, etc.</li> <li>Survey students midway through the semester, to capture perceptions of their learning and the educational environment (the class, the instructor, the college) that supports it.</li> <li>Share outcomes and recommendations with other faculty to solicit feedback and finalize recommendations.</li> </ol>

**COURSE SLO ASSESSMENT REPORT, Coastline Community College**

**Department:** Math

**Semester:** Spring 2017

**Course:** Math C280 Calculus 3 CRN #80200

**Faculty Member:** Mike Everett

Course SLO	Method of Assessment	Outcomes	Recommended Actions
<p>Upon completion of the course, students will have the necessary quantitative reasoning skills to become an informed citizen, to understand major issues in life, to achieve success and advance in their career, and to understand the mathematics they may encounter in other college courses. Upon completion of the course students will be able to:</p> <ol style="list-style-type: none"> <li>1. Apply multiple integrals, principles of differential calculus, and integration to solve problems involving vector fields and calculate partial derivatives.</li> </ol>	<p>Midterm &amp; Final Exam</p>	<p>1) On Question #1 of the midterm, students evaluated the unit tangent vector and the curvature of a given curve: 65% of the students successfully achieved the outcome, 19% of the students partially achieved the outcome, and 16% of the students did not achieve the outcome.</p> <p>2) On Question #5 of the final exam, students found the volume of a paraboloid bounded by a plane: 42% of the students successfully achieved the outcome, 35% of the students partially achieved the outcome, and 23% of the students did not achieve the outcome .</p> <p>3) On Question #12 of the final exam, students utilized Green’s Theorem to evaluate a given line integral: 61% of the students achieved the outcome, 23% of the students partially achieved the outcome, and 16% of the students did not achieve the outcome.</p>	<p>1) I am planning to add a media assignment including short videos and assessment questions to provide consistent support with vector valued functions</p> <p>2) I am planning to add a discussion board assignment next semester on functions with several variables as a reinforcement activity for this concept.</p> <p>3) I am planning to address common conceptual errors within an email assignment next semester on vector calculus as a reinforcement activity for this concept.</p>

**COURSE SLO ASSESSMENT REPORT, Coastline Community College**

**Department:** Math

**Semester:** Fall 2017

**Course:** PreAlgebra, Math 008, CRN 80476

**Faculty Member:** Jessica Kuang

Course SLO	Method of Assessment	Outcomes	Recommendations
<p>Upon completion of the course students will be able to:</p> <ol style="list-style-type: none"><li>1. Evaluate algebraic expressions involving the real number system and solve simple algebraic equations.</li></ol>	<p>final course grade</p>	<p>CRN #80476:</p> <p>57% Successfully achieved Outcome</p> <p>20 % Partially achieved Outcome</p> <p>23% Did not achieve Outcome</p>	<p>After gathering evidence, reviewing and interpreting results, I recommend for next semester:</p> <p>This course will be phased out next semester.</p> <p>The plan is to develop support courses as the college transitions to meet the standards of AB 705.</p>

**COAST COMMUNITY COLLEGE DISTRICT  
invites applications for the position of:**

**Instructor, Mathematics**

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**SALARY:** \$47,640.00 - \$113,580.00 Annually

**OPENING DATE:** 12/16/15

**CLOSING DATE:** 02/16/16 11:59 PM

**DEFINITION:**

**Performance Responsibilities:**

1. Instruct courses in the Mathematics curriculum, with an emphasis in online instruction. Teaching responsibilities may include any mathematics course taught at the community college level (Arithmetic through the four semester sequence of Calculus and Statistics).
2. Participate in curriculum development, implementation, and evaluation.
3. Fulfill the professional responsibilities of a full-time faculty member, including but not limited to the following: teach all scheduled classes unless excused by Board Policy; follow the department course outlines; keep accurate records of student enrollment, attendance and progress; post and maintain scheduled office hours; participate in departmental meetings and college and/or district-wide activities and committees as assigned.
4. Assignment may include day, evening, weekend, online or classes at local high schools.

**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 in Mathematics or Applied Mathematics from an accredited institution.
  - c. Possess a Bachelor's degree in Mathematics or Applied Mathematics from an accredited institution, AND a Master's degree in Statistics, Physics, or Mathematics Education from an accredited institution.
  - 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 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 teaching experience in at least two of the following areas:

Foundation/developmental mathematics; transfer level mathematics; statistics; math for k-12 teacher preparation; strategies and approaches for diverse learning styles.

2. Successful college or high school experience teaching mathematics or teaching assistantship in mathematics at the college level.

3. Evidence of involvement in mathematics and mathematics education such as: conferences and workshops; membership or committee involvement in professional organizations; design, review, and evaluation of curriculum; professional developmental activities; applications of mathematics outside the classroom.

4. Successful teaching experience working with diverse populations.

5. Experience using course management systems to create and teach online mathematics courses.

6. Experience using technology to improve student learning, such as course management systems, online homework systems, computer algebra systems, spreadsheet and statistics software, graphing calculators and social media.

7. Experience using a variety of methods of instruction to engage students, such as collaborative or active learning.

8. High level of scholarship and a solid background in mathematics.

### **CONDITIONS OF EMPLOYMENT:**

For a full-time, two-semester position a maximum starting range of \$47,640 to \$81,222 is offered, based on the 2015-2016 salary schedule of \$47,640 to \$113,580. In addition, an annual stipend of \$2,878 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 the District's strategic diversity goals are strongly encouraged to apply. Reasonable accommodations will be provided for qualified applicants with disabilities who self-disclose.

*The deadline to apply is **11:59 p.m., February 15, 2016.** Application materials must be electronically submitted online at <http://www.cccd.edu/employment>. Incomplete applications and application materials submitted by mail will not be considered.*

### **ADDITIONAL INFORMATION:**

#### **APPLICATION PROCESS**

- A Coast Community College District 'Certificated' Online Application.
- A cover letter outlining your education and experience relevant to this position.
- A letter of application addressing the desirable qualifications.
- A current resume or curriculum vitae.
- Answers to the supplemental questions.
- Complete transcripts of ALL lower and upper division, and graduate level college/university course work with the degree conferral date shown (need not be official - as attachment). Transcripts from countries other than the United States must be evaluated by an agency that is a member of the National Association of Credentials Evaluation Services (NACES).

Submit application on-line at

<http://www.cccd.edu/employment>.

OR visit our lobby to submit applications on-line at

Coast Community College District – Human Resources

1370 Adams Avenue, Costa Mesa, CA 92626

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

### **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 basic 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 experience.
7. The start date will be determined by the Dean of the Division/Department 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 recruitment process for our vacant positions.
- 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 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.

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Coast Colleges is an Equal Opportunity Employer

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APPLICATIONS	MAY	BE	FILED	ONLINE	AT:	Position #5-C-17
<a href="http://www.cccd.edu">http://www.cccd.edu</a>						INSTRUCTOR, MATHEMATICS
1370		Adams			Avenue	SB
Costa	Mesa,		CA		92626	
714-438-4714						
714-438-4716						

[jobs@ccd.edu](mailto:jobs@ccd.edu)

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### **Instructor, Mathematics Supplemental Questionnaire**

- \* 1. Are you applying for equivalency? (An application for equivalency is required if you do not possess the minimum qualifications for this discipline.)

No. I am not applying for equivalency. I already possess the minimum qualifications for this discipline area.

Yes. I have attached the application for equivalency.

- \* 2. Have you taught eight (8) or more semesters for the Coast Community College District? (Per the Agreement between CCA - CTA/NEA and the Coast Community College District)  
Yes      No
  
- \* 3. Have you taught a minimum of four (4) semesters for the Coast Community College District in the last three (3) years in the discipline for which you are applying? (Per the Agreement between CCA - CTA/NEA and the Coast Community College District)  
Yes      No
  
- \* 4. If you answered yes to any of the above questions, what was your start date and teaching locations? (Coastline College, Golden West College, and Orange Coast College) Respond with N/A if this does not apply to you.
  
- \* 5. Coast Colleges will be holding a "Hire Me" workshop on or around February 19, 2016. Would you be interested in attending the workshop?  
Yes      No
  
- \* 6. Are you planning on attending the 2016 CCC Job Fair in Los Angeles January 30, 2016?  
Yes      No
  
- \* 7. Please provide a brief response to your evidence of teaching experience in at least two of the following areas: Foundation/developmental mathematics; transfer level mathematics; statistics; math for k-12 teacher preparation; strategies and approaches for diverse learning styles.
  
- \* 8. Please provide a brief response to your successful college or high school experience teaching mathematics or teaching assistantship in mathematics at the college level.
  
- \* 9. Please provide a brief response to your evidence of involvement in mathematics and mathematics education such as: conferences and workshops; membership or committee involvement in professional organizations; design, review, and evaluation of curriculum; professional developmental activities; applications of mathematics outside the classroom.

- \* 10. Please provide a brief response to your successful teaching experience working with diverse populations.
  
- \* 11. Please provide a brief response to your experience using course management systems to create and teach online mathematics courses.
  
- \* 12. Please provide a brief response to your experience using technology to improve student learning, such as course management systems, online homework systems, computer algebra systems, spreadsheet and statistics software, graphing calculators and social media.
  
- \* 13. Please provide a brief response to your experience using a variety of methods of instruction to engage students, such as collaborative or active learning.
  
- \* 14. Please provide a brief response to your high level of scholarship and a solid background in mathematics.
  
- \* 15. Please describe your experience using Student Learning Outcomes to drive teaching and learning.
  
  
- \* Required Question