

## Comprehensive Program Review

### A. Department Information

#### Mission

Please enter your department's mission statement here.

The math department helps students “develop their intellect, character and abilities” through a variety of courses that help students develop several core competencies including:

Communication and expression, Information literacy and Critical Thinking.

How does your program mission statement relate to the mission, vision and values of the college? (<https://www.deanza.edu/about-us/mission-and-values.html>)?

The Math department, in its mission to foster the development of students' intellect, character, and abilities, closely aligns with the college's broader mission and values. By emphasizing the cultivation of core competencies, including communication and expression, information literacy, and critical thinking, the department directly supports the college's commitment to challenging students of diverse backgrounds to realize their goals and become socially responsible leaders. This alignment underscores the department's integral role in nurturing a learning environment that mirrors the values of integrity, innovation, equity, and the development of all students' human capacity, ultimately contributing to a vibrant and inclusive college community.

### Program Goals

Enter 1-3 goals for your department to be achieved by spring 2027. Each annual reflection will ask your department to report on progress in meeting your goals. Each goal should be aligned to your department's mission and the college mission. All resource requests and personnel requests should be aligned with your program's mission and goals.

Goal title	Goal description	Responsible parties	Collaboration with	Guided Pathways engagement	What evidence will be used to monitor progress?	How will you assess achievement of the goal?
Enhance Student Success and Equity	The Math department aims to improve student success and equity by implementing innovative teaching methodologies, supporting students' diverse learning needs, and providing resources to underrepresented student groups. We will focus on closing achievement gaps and fostering a more inclusive and equitable learning environment.	Math department faculty and department chair	Learning Support Services, Counseling Services, and Diversity and Equity Center	Alignment with Guided Pathways framework, especially focusing on clarity in program maps and providing tailored support for students.	Data on retention rates, course completion, and the success of underrepresented student groups, along with feedback from students and faculty.	Successful achievement will be determined by a demonstrated reduction in achievement gaps, increased student retention and completion rates, and the development of targeted support programs for underrepresented students.
Professional Development and Faculty Growth	The Math department is committed to fostering a culture of continuous learning among its faculty. We will invest in professional development opportunities that enhance teaching strategies, incorporate best practices, and keep our faculty updated with the latest advancements in the field.	Math department chair and professional development committee	Faculty development centers, instructional designers, and external experts	Ensuring that professional development aligns with Guided Pathways goals and strategies.	Records of faculty participation in workshops, improved teaching evaluations, and the integration of new teaching methodologies.	Successful achievement will be determined by an increase in faculty engagement in professional development activities, improved student feedback on teaching effectiveness, and the integration of new strategies in the classroom.

### Changes Imposed by Internal/External Regulations or Factors

Are there factors unique to your program that may affect your enrollment, success rates or staffing that RAPP should be aware of? (e.g., curriculum changes, program reorganization, noncredit curriculum, loss of personnel, legislative mandates, etc.)

The Math department is adapting to ongoing curriculum changes and evolving educational regulations. These changes include updates to AB705 and 1705, shifts in assessment practices, and increased emphasis on digital literacy and online teaching. Additionally, the department has been responding to the unique challenges posed by the transition to online and hybrid instruction in response to external factors, such as the COVID-19 pandemic. These changes have influenced our course offerings, teaching strategies, and support services, all of which require ongoing adjustments to ensure student success and faculty development.

### B. Enrollment Trends

#### Enrollment Variables and Trends

Enrollment Trends						
Physical Sciences/Math/Engin - Mathematics-FD						
	2018-19	2019-20	2020-21	2021-22	2022-23	5-yr %Inc
Unduplicated Headcount	10,561	10,096	10,564	8,775	8,020	-24.1%
Enrollment	18,334	17,864	18,503	15,004	13,790	-24.8%
Sections	554	541	546	473	419	-24.4%
WSCH	32,518	30,301	31,255	25,690	23,849	-26.7%
FTES (end of term)	2,149	2,006	2,062	1,701	1,590	-26.0%
FTEF (end of term)	60.6	58.4	59.1	50.3	44.7	-26.3%
Productivity (WSCH/FTEF)	536	519	529	511	534	-0.5%

In the data table above, what does the Enrollment trend indicate? For definitions of enrollment terms, please see the glossary (<https://www.deanza.edu/ir/documents/Glossary.pdf>).

the data trend shows an increase in Enrollment

- the data trend shows a decrease in Enrollment
- the data trend shows no change and/or flat in Enrollment

### Reflect on Enrollment Trends

Discuss the factors that would help the college understand your programs' enrollment trends. How may these trends align with your program mission and goals?

The observed decrease in enrollment trends within our program necessitates a comprehensive examination of the underlying factors that have contributed to this decline. To align with our program's mission and goals, it is imperative to assess changing demographics, economic conditions, and the relevance of our curriculum to evolving industry needs. Additionally, we should critically evaluate the effectiveness of our marketing and outreach strategies, ensuring that they resonate with prospective students. Moreover, enhancing the availability and quality of student support services is crucial to fulfilling our mission of supporting student success. This analysis will guide us in taking strategic actions to address the enrollment decline, realigning our program with its fundamental principles and objectives.

### CTE Programs - Statewide and Regional Labor Market Trends

CTE Programs Only

- Review and summarize the Lightcast Analyst Occupational Outlook data for your CTE program (<https://foothilldeanza.sharepoint.com/:f:/s/dactedepartments/EiRTueQ8GrNLqItIqW2twpsBMFCs7X5djTVeo6Jss3W0Jg?e=1ybpmY>).
- Cite current industry trends.
- Provide an overview of your program advisory committee's recommendations relating to existing and new course and certificate/degree offerings. Cite additional data when applicable.

NA

### D. Course Success

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#### Course Success

Mathematics-FD

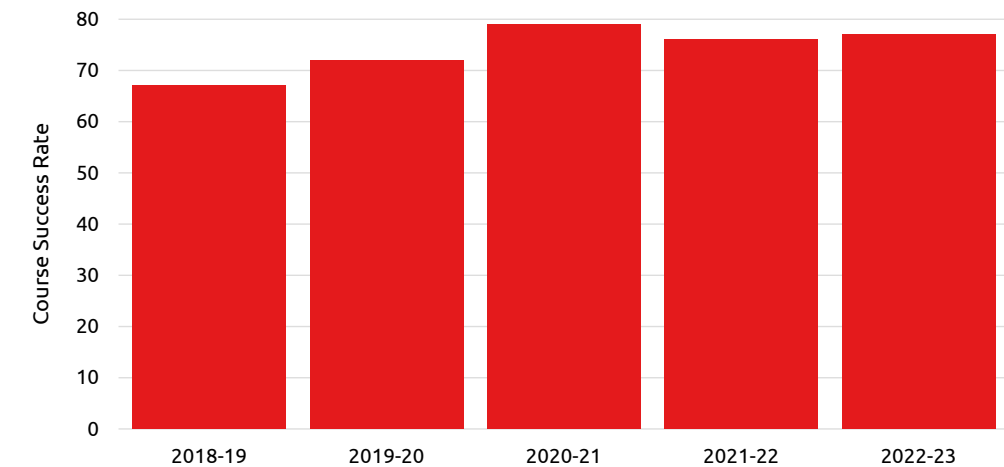
**Who uses this report:**

All users who want to further explore their enrollment or course success data.

**What is this report:**

This report is an extension of the Program Review Data Sheet. It has additional student characteristics and users can compare two groups of students at the same time.

Limits:



Limits:

Measures: Enrollments and Course Success Rate and Success Count

	2018-19			2019-20			2020-21			2021-22			2022-23		
	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count
<b>Measures</b>	18,334	67%	12,318	17,864	72%	12,919	18,503	79%	14,561	15,004	76%	11,478	13,790	77%	10,650

Data loaded 17-Aug-2023

In the data table above, what overall trends are you seeing in Course Success?

- the data trend shows an increase in Course Success
- the data trend shows a decrease in Course Success
- the data trend shows no change in Course Success

### Exploring Course Success Rate Trends

- What could be factors that influence success rates in your department?
- What strategies does your department have in place to increase or maintain current success rates?
- Are there other trends that you see when exploring different courses in the same department (How to access success rates by course: [https://www.deanza.edu/ir/documents/How\\_to\\_Access\\_Your\\_Program\\_Review\\_Data.pdf](https://www.deanza.edu/ir/documents/How_to_Access_Your_Program_Review_Data.pdf))
- How do course success rate trends align with your program goals?

The decrease in overall course success rates in our department is influenced by a complex interplay of factors, including student demographics, and external variables. To address this challenge, our department has implemented a range of strategies, including curriculum reviews, enhanced support services, faculty development, and innovative teaching modalities, to improve and maintain success rates. When exploring course-specific trends, we identify opportunities for tailored improvements and interventions. These trends closely align with our program's goals, as they reflect our commitment to providing high-quality education and fostering student success. By continuously analyzing and responding to success rate data, we strive to ensure that our students not only access education but also thrive academically, in alignment with our core mission and objectives.

## Course Success with Disproportionate Impact (credit and non-credit)

Limits: 2022-23

### Who uses this report:

All users who want to explore student equity and disproportionate impact in course success.

### What is this report:

This report highlights student groups with a negative percentage point gap and student groups experiencing disproportionate impact. Data reflects credit sections. Student groups with "N/A" enrollment denotes suppressed data.

### How to interpret the data:

A negative percentage point gap means a student group has a lower success rate than the comparison group consisting of all students not in the student group being examined. When a student group is experiencing disproportionate impact, this means that (1) there is a negative percentage point gap and (2) this gap is unlikely to be due to chance. Programs are encouraged to prioritize discussions and address the student groups experiencing disproportionate impact.

### New features:

To display only student groups with disproportionate impact, click on the link "Click here to show only groups with disproportionate impact." To add a comparison unit that is one level higher (e.g., course level compared to department level), **be sure to select a college, division, department or course**, then click on the link "Click here to show and compare disproportionate impact with [X]".

### Success rate

The number of students receiving an A, B, C or P grade divided by the total number of students receiving a grade. Rate is rounded.

### Comparison success rate

The success of all students except for the group being examined (e.g., the comparison success rate for Latinx students is the success rate of all students who are not Latinx). Rate is rounded.

### Additional successes needed to erase percentage point

This value provides a way for practitioners to think of gaps in terms of student successes, and illustrates the number of additional successes needed to avoid a percentage point gap.

### Legend:

**Yellow:** Student groups experiencing a negative percentage point gap that is not statistically significant

**Orange:** Student groups experiencing disproportionate impact according to the Percentage Point Gap Minus One (PPG-1) method<sup>1</sup>

Currently showing all groups. [Click here to show only groups with disproportionate impact.](#)

[Click here to show and compare disproportionate impact with .](#)

Number of sections: 419

Student group	Enrollment at census	Student group success rate	Comparison success rate	Percentage point gap	Chart	Additional successes needed to erase percentage point gap
All Students (Mathematics-FD, 419 sections)	13,790	77%	77%	0		
Asian	6,768	83%	71%	+12		
Black	390	62%	78%	-16		62
Filipinx	825	72%	78%	-5		45
Latinx	2,591	60%	81%	-21		548
Native American	37	73%	77%	-4		2
Pacific Islander	68	76%	77%	-1		1
Unknown ethnicity	1,234	88%	76%	+12		
White	1,877	77%	77%	+0		
Female	5,426	78%	77%	+1		
Male	8,162	77%	78%	-1		119
Non-Binary	0					
Unknown gender	202	78%	77%	+1		
Foster youth	29	79%	77%	+2		
Individuals with disabilities	455	73%	77%	-5		22
Low Income	4,876	72%	80%	-8		408
Not Low Income	8,914	80%	72%	+8		
Veterans	230	76%	77%	-1		3

<sup>1</sup>The PPG-1 method follows the CCCCO method for calculating disproportionate impact. Disproportionate impact is when (1) a student group's PPG value is less than -2 (e.g., -3, -4, -5, etc.) and (2) the absolute PPG value is greater than the calculated margin of error. PPG is calculated by comparing a student group's success rate against the success rates of all students except for the group being examined (e.g., Latinx PPG is Latinx success minus the success of all students except for Latinx students).

In the data table above, what does the data indicate about the Success rate of various ethnic groups within your department compared to the comparison group for the most recent academic year? (i.e., as displayed in the Percentage point gap column)

The Percentage point gap between Asian students and all other students shows:

- there is no gap (e.g., 0)
- there is a negative gap of 5-percentage points or less (e.g., -5)
- there is a negative gap greater than 6 percentage points (e.g., -6)
- there is a positive percentage point gap (e.g., +2)

The Percentage point gap between Black students and all other students is:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap

The Percentage point gap between Filipinx students and all other students is:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap

The Percentage point gap between Latinx students and all other students is:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap

The Percentage point gap between White students and all other students is:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap

The Percentage point gap of one additional group of your choice:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap
- not applicable

### Exploring Gaps in Successful Course Completion by Ethnicity

1. What differences do you see in successful course completion rates by ethnicity?
2. What are your thoughts on these differences?
3. Are there other trends that you see when drilling into the data that may be important for your department to explore (e.g., foster youth, individuals with disabilities, low income, veterans)?
4. Which additional student group did you choose to explore and why?
5. How do these trends align with your program's mission and goals?

The disparities in successful course completion rates among different ethnic groups are a pressing concern that requires our program's attention. While Asian and White students perform at or above average levels, significant gaps exist for Black and Latinx students, indicating systemic challenges in course completion. These disparities underscore the need for targeted interventions, equity-driven support services, and a comprehensive approach to ensure that all students, regardless of their ethnicity, have equal opportunities for success in our program. By addressing these disparities, we aim to fulfill our program's mission of providing equitable access to education and fostering student success, ensuring that every student can achieve their educational goals in an inclusive and supportive learning environment.

### Teaching and Learning Strategies

1. What teaching and learning strategies might be helpful in narrowing any gaps in successful course completion?
2. How do the listed teaching and learning strategies align with your program's mission and goals?

To narrow gaps in successful course completion, our program is committed to implementing a range of teaching and learning strategies that prioritize equity, diversity, and inclusion. Diverse teaching approaches cater to the unique learning styles and needs of underrepresented student groups, while personalized support and mentorship programs offer guidance tailored to individual challenges. Culturally responsive teaching practices create an inclusive classroom environment, ensuring that the curriculum is relevant and relatable for all students. Early warning systems, faculty development, and peer support networks further contribute to our mission of providing equitable access to education and fostering student success. These strategies align with our program's core goals of creating an inclusive, supportive learning environment that empowers all students, regardless of their background, to thrive academically and achieve their educational aspirations.

### Trends in Awards

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## Degrees and Certificates by Ethnicity

Mathematics-FD

**Who uses this report:**

All users who need degree and certificate data.

**What is this report:**

This report provides the degree and certificate counts by college, division and department. Additionally, all users could explore degree and certificate awarded by ethnicity and gender.

Measures: Awards

<input checked="" type="checkbox"/> Award Group	Ethnicity	2018-19	2019-20	2020-21	2021-22	2022-23
Associate in Arts	Asian	106	82	126	96	82
	Black	19	10	8	16	6
	Filipinx	38	27	25	32	36
	Latinx	68	62	61	80	61
	Native American	1		1		
	Pacific Islander		2	4	1	1
	White	35	37	47	33	29
	Unknown ethnicity	1		2	2	8
	<b>Total</b>	<b>268</b>	<b>220</b>	<b>274</b>	<b>260</b>	<b>223</b>
Associate in Science-Transfer	Asian	10	36	40	37	41

Black	1	1	1	2
Filipinx		2	3	2
Latinx	1	1	3	5
Native American	1			1
White	1	7	7	10
Unknown ethnicity			1	8
<b>Total</b>	14	47	55	67
<b>Total</b>	282	267	329	290

Data loaded 24-Oct-2023

In the data table above, what are the trends in regard to the number of awards within your program?

Trends in Associate Degrees awarded show:

- an increase in the number of Associate Degrees awarded
- a decrease in the number of Associate Degrees awarded
- no change in the number of Associate Degrees awarded
- Not applicable

Trends in Associate Degrees for Transfer awarded show:

- an increase in the number of Associate Degrees for Transfer awarded
- a decrease in the number of Associate Degrees for Transfer awarded
- no change in the number of Associate Degrees for Transfer awarded
- Not applicable

Trends in Credit Certificates awarded show:

- an increase in the number of Credit Certificates awarded
- a decrease in the number of Credit Certificates awarded
- no change in the number of Credit Certificates awarded
- Not applicable

Trends in Non Credit Certificates awarded show:

- an increase in the number of Noncredit Certificates awarded
- a decrease in the number of Noncredit Certificates awarded
- no change in the number of Noncredit Certificates awarded
- Not applicable

## Reflecting on Trends in Awards

1. What trends do you see across awards in your department?
2. How do the trends in awards align with your program's mission and goals?

- Trends in Associate Degrees awarded show a decrease in the number of awards conferred over the years.
- Trends in Associate Degrees for Transfer awarded reveal an increase in the number of awards conferred.
- Trends in Credit Certificates awarded indicate a decrease in the number of certificates awarded.
- Trends in Noncredit Certificates awarded show no significant change.

Reflecting on Trends in Awards:

Across our program's awards, we observe a mixed trend. While the number of Associate Degrees has decreased, there has been a rise in the conferment of Associate Degrees for Transfer. Credit Certificates have experienced a decline, whereas Noncredit Certificates have remained relatively stable. These trends reflect the evolving demands and choices of our students, which our program aims to adapt to.

The trends in awards align with our program's mission and goals by indicating our responsiveness to the changing needs and aspirations of our student population. We aim to provide diverse pathways for educational achievement, ensuring that students have options that best suit their career and educational goals.

## Reflecting on Award Offerings

1. For each program leading to an award, identify any courses that have not been offered in the last two years. Briefly explain why the courses have not been offered. For courses that will not be offered, how does your program plan to update the program so that students can complete the requirements?
2. Based on a review of course offerings and the number of awards offered and conferred, is your department planning on removing any degrees or certificates from the college catalog? If so, please list those being removed and a short explanation as to why.
3. Does your department have any plans to offer new degrees or certificates? If so, please list and provide a short explanation as to why.

We have identified several courses that have not been offered in the last two years, primarily due to factors such as low enrollment and curriculum revisions. To update the program and allow students to complete requirements, we plan to explore alternative courses or elective options that align with program goals while meeting student needs.

There are currently no plans to remove any degrees or certificates from the college catalog, as each award offers unique value to our students and serves distinct educational and career objectives.

While there are no immediate plans to remove degrees or certificates, we are actively exploring the addition of new degrees and certificates to meet emerging educational and workforce needs. These additions aim to provide students with further choices and opportunities for academic and career advancement.

## Staffing Trends

### Faculty Workload

Faculty Workload Physical Sciences/Math/Engin - Mathematics-FD						
	2018-19	2019-20	2020-21	2021-22	2022-23	5-yr %Inc
Full Time Load	25.2	23.4	23.8	22.3	20.1	-20%
Full Time %	41.6%	40.1%	40.3%	44.4%	45.0%	8%
Overload	9.4	10.4	9.6	8.0	7.1	-25%
Overload %	15.5%	17.7%	16.3%	16.0%	15.9%	2%
Part Time Load	26.0	24.6	25.7	19.9	17.5	-33%
Part Time %	42.9%	42.2%	43.5%	39.7%	39.1%	-9%
Total FTEF	60.6	58.4	59.1	50.3	44.7	-26%

What trends do you see in the last five years in regard to the Full Time %? (i.e., percentage of classes being taught by full time faculty, not including overload or summer)

- the data trend shows an increase in Full Time %
- the data trend shows a decrease in Full Time %
- the data trend shows no change in Full Time %

### Staffing Needs

Provide a brief overview of your department's staffing needs. Personnel requests are to be submitted on a separate form.

1. What are full time faculty needs to ensure the program's health, growth or vitality?
2. What are classified staffing needs to ensure the program's health, growth or vitality?
3. What strategies does your program have in place to ensure students are being successful when faced with the current staffing ratios?
4. What strategies does your program have in place to retain new faculty, if applicable?

**Full-Time Faculty Needs:** To ensure the program's health, growth, and vitality, there is a need for additional full-time faculty. Full-time faculty members play a crucial role in providing stability and consistent support to students. Increasing their numbers would facilitate a more robust academic environment and enhance the overall educational experience.

**Strategies for Student Success:** To ensure students' success given the current staffing ratios, the program employs strategies such as effective advising, peer mentoring, and support services. These initiatives aim to maximize the impact of existing staffing resources, helping students navigate their academic journey and achieve their educational goals.

**Faculty Retention Strategies:** Retaining new faculty is vital for program continuity and student support. Strategies include mentorship programs, professional development opportunities, and creating a supportive and inclusive faculty community. These initiatives are designed to enhance job satisfaction and promote faculty retention.

Overall, addressing full-time faculty needs, classified staffing requirements, and implementing student success and faculty retention strategies are essential for the program's continued growth and vitality. These efforts contribute to a supportive and enriching learning environment that aligns with the program's mission and goals.

## Assessment Cycle

### Student Learning Outcomes Assessment Cycle

Navigate to <https://www.deanza.edu/slo/#post> which will take you to an accordion listing of SLO assessments under "Student Learning Outcomes and Assessments Summaries by Division"

1. Summarize the dialogue that has resulted from SLO and/ or PLO assessments.
2. What specific strategies has your department implemented, or plan to implement, based on the results of the SLO/PLO assessments conducted?
3. How do these strategies align with the program's mission and goals.

NA

### Dean/Manager Comments

In addition to all aforementioned analysis, it is worth mentioning that in the past 5 years, we had to stop offering developmental math classes which used to carry a big part of our enrollment. Additionally, as a result of placing students in higher classes beyond the developmental courses, the success rate of students, specially those in impacted groups dropped. A third factor is the emergence of online classes during and after pandemic. At the department level, math has kept a high percentage of its courses in person or hybrid where as other schools have a higher percent of online classes which at least temporarily is impacting our enrollment. Mathematics department has had several retirements and incomplete tenure processes during the past 5 years. The replacement does not come even close to the department's needs. To help department navigate through the challenges and support students, the department has immediate need for at least 2 new fulltime faculty.

**STOP. Do not submit form. Please inform your dean/manager when the form is complete. They will submit the form when they have added their comments above.**

This form is completed and ready for acceptance.