



Program Review  
New Position Request Presentation

**3 Positions: Chemistry Faculty Tenure Track**

**Requested by: Chemistry Department/STEM Division**

# Faculty Request Overview

1

## **The Chemistry Department at Cañada College**

- Current State of our Department
- Institutional Impacts

2

## **Chemistry and Socioeconomic Equity**

- Community Needs in Physical Science
- Cañada College & Redwood City
- Employment Trends in the SF Bay Area

3

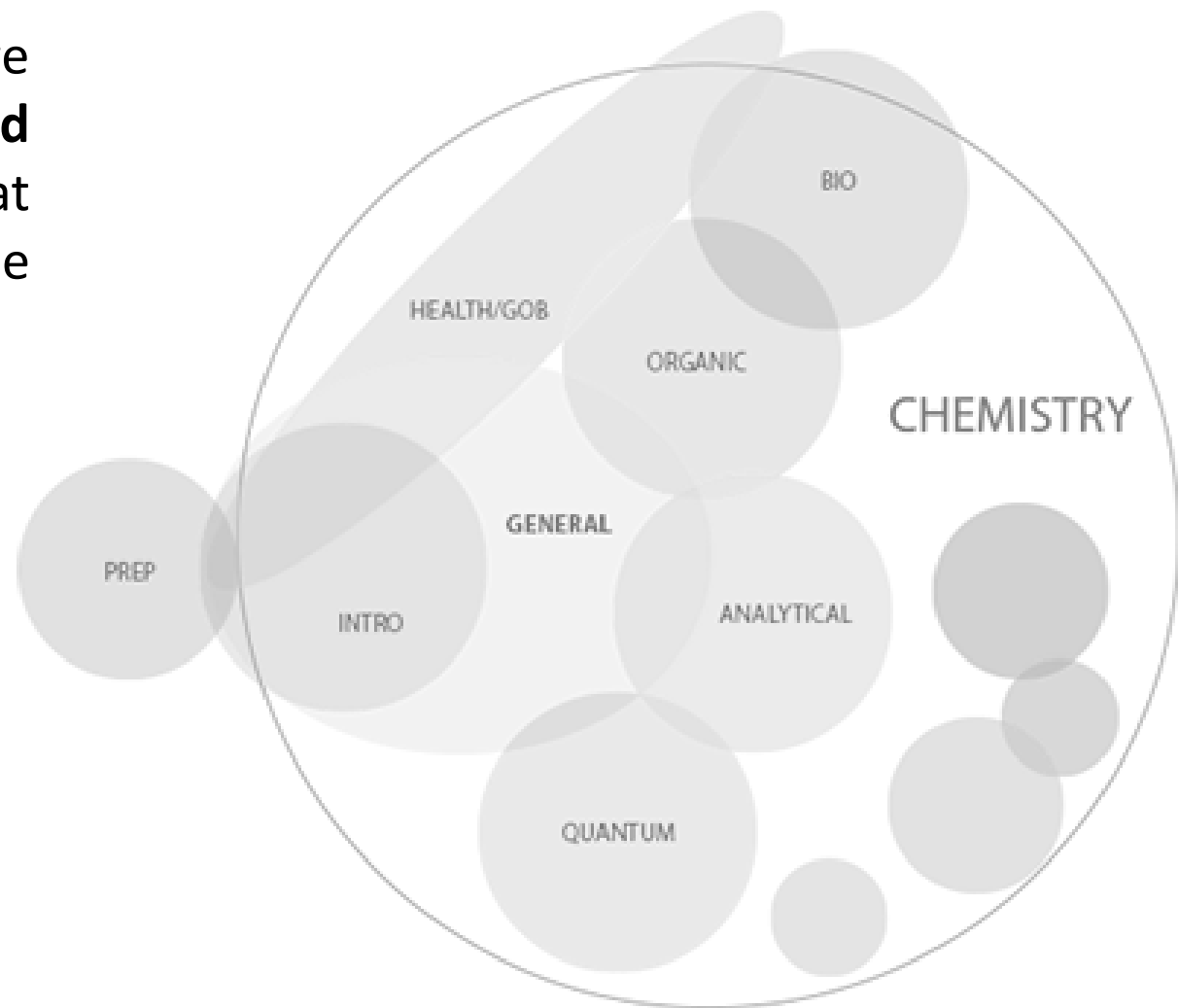
## **Department Needs**

- Why three full-time faculty?
- Impacts of Request Denial

# Chemistry's Mission Statement

The Chemistry Department at Cañada College is committed to fostering an **inclusive and engaging learning environment** that **empowers students** to explore the fundamental principles of chemistry.

Our mission is to provide **high-quality education** that emphasizes critical thinking, hands-on laboratory experience, and real-world applications. We strive to create a department that actively **addresses socio-academic inequity**, ensuring that **all students have the opportunity to achieve academic excellence** in our field of study.



# Cañada's Chemistry Department

## With 2 FT Instructors and 8 PT Instructors as of Fall 2024:

- Eight unique courses with at least 3 sections of per year of core series (\*)
  - *Day, evening and Saturday offerings*
  - *Online, Hybrid and in-person modalities*
- **75% ZTC/OER/LTC adoption rate**
  - *Cohesive department curriculum in core series*
- **11.5% increase in Success Rates** from AY 2022-2023 to AY 2023-2024
- Cañada College Chemistry Club

CHEM 114: Survey of Chemistry and Physics  
CHEM 192: Elementary Chemistry  
CHEM 410: Chemistry for Health Science (ZTC/OER)  
CHEM 695: Independent Study (ZTC/OER)

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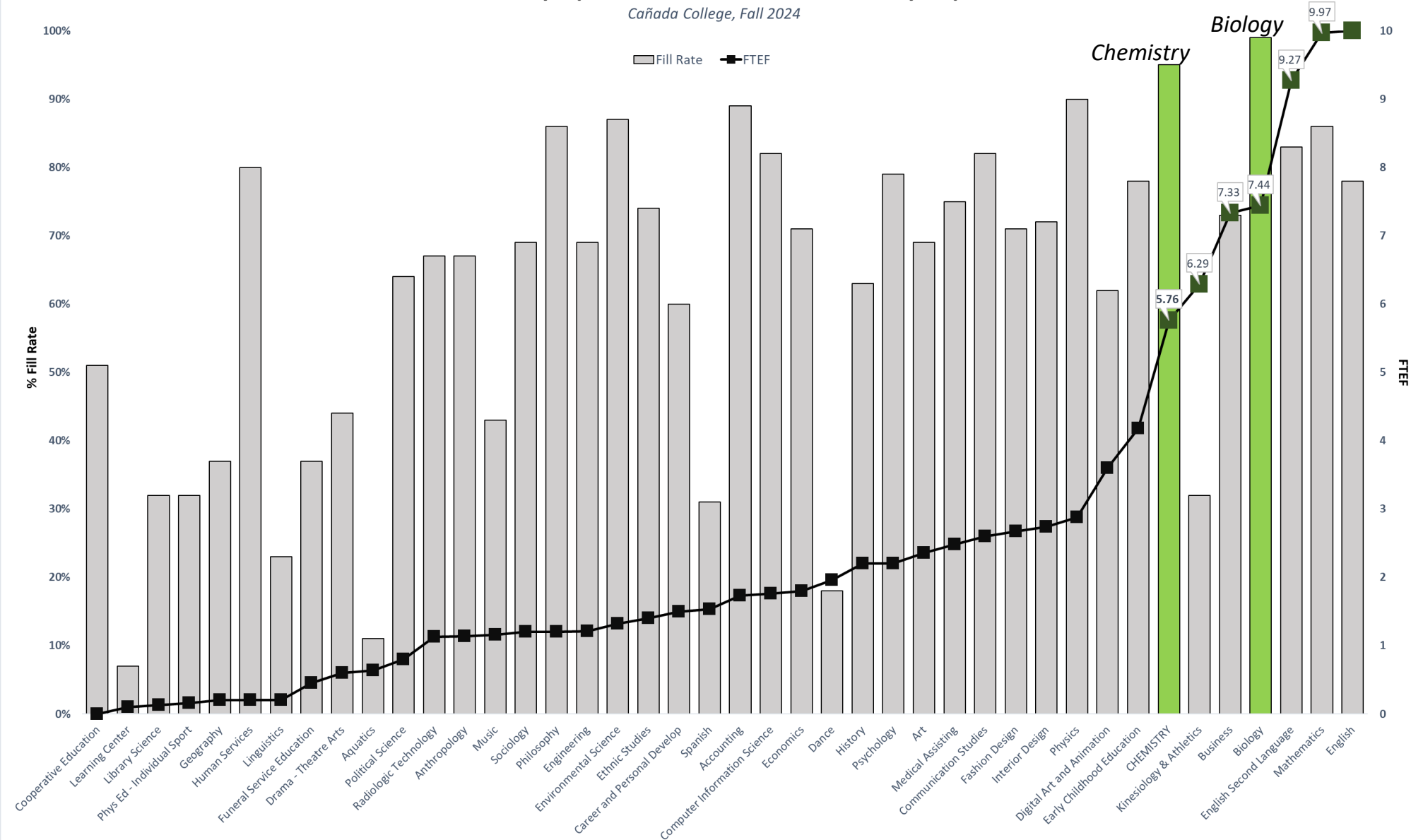
**\*CHEM 210: General Chemistry I (ZTC/OER)**  
**\*CHEM 220: General Chemistry II (ZTC/OER)**  
**\*CHEM 231: Organic Chemistry I (ZTC/OER)**  
**\*CHEM 232: Organic Chemistry II (ZTC/OER)**



# Institutional Impact of Our Department

Full-Time Faculty Equivalent Load and % Fill Rates by Department

Cañada College, Fall 2024



## As of Fall 2024:

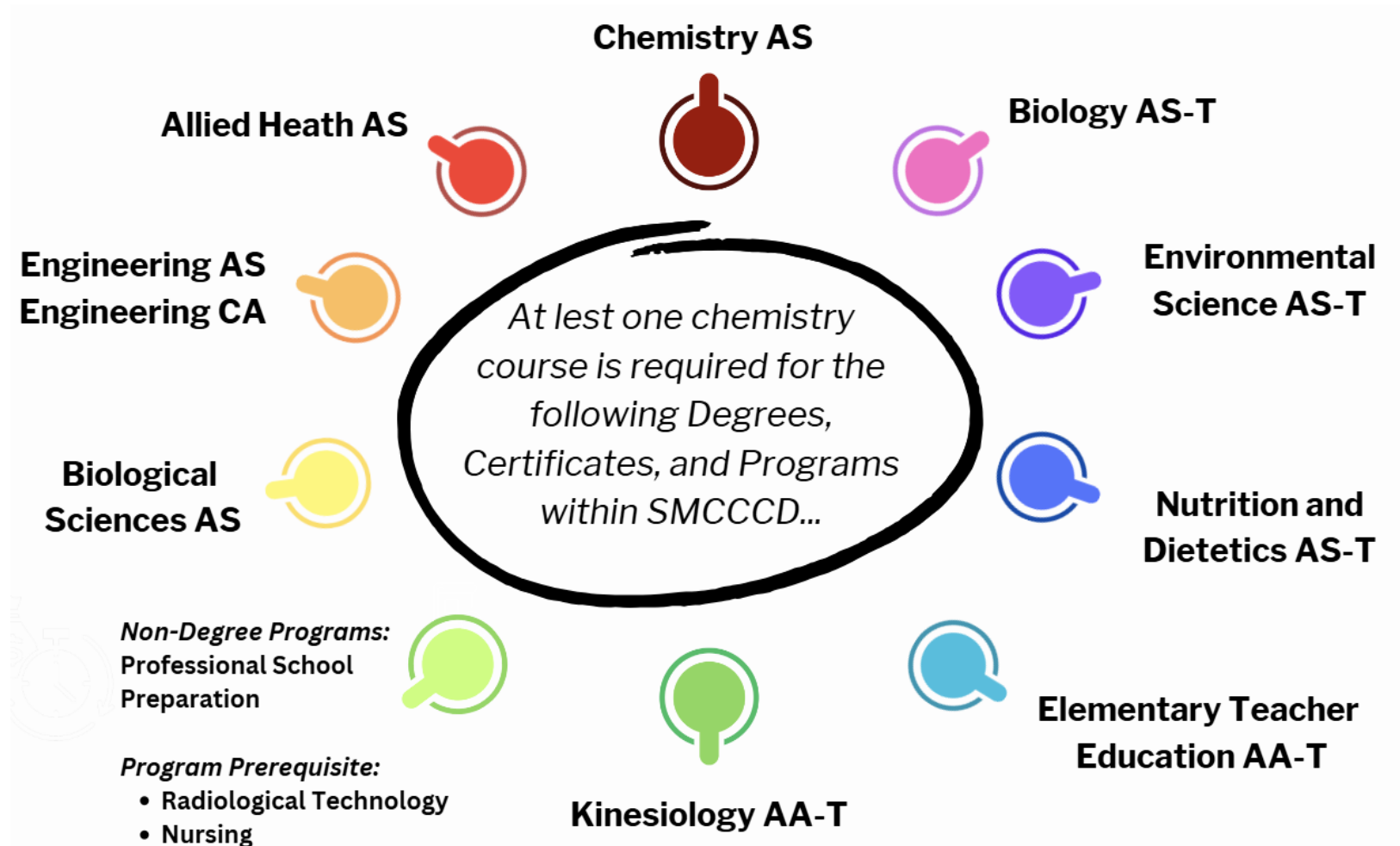
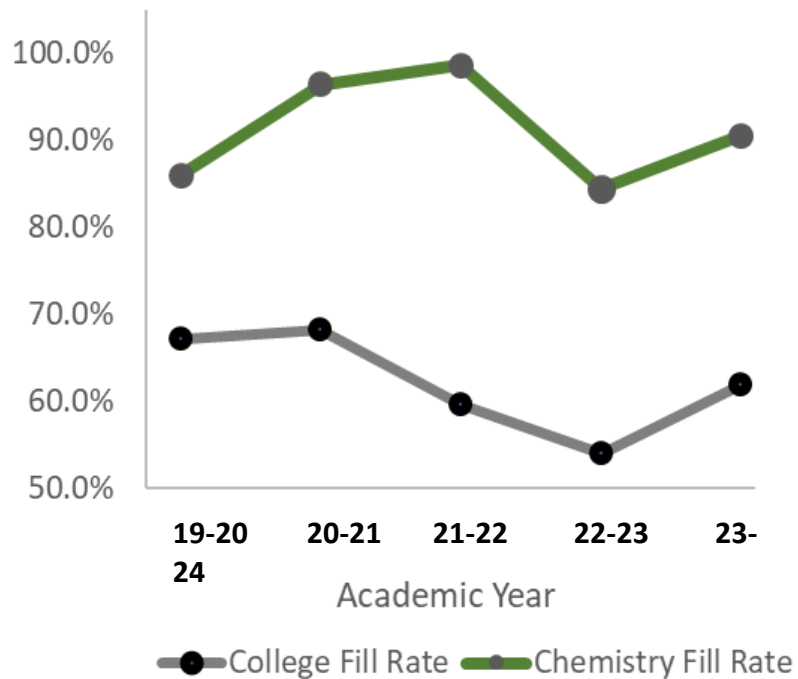
- Chemistry is the **7th largest department** at Cañada (by FTEF)
- Chemistry has the **2nd highest fill rate** of 95%
  - Biology at 99%

# Students' Demand for Chemistry

Students have and will continue to take chemistry at Cañada College as long as sections are available.

**Trends in % Fill Rate in Chemistry vs. the College**

*Cañada College, Fall 2024*



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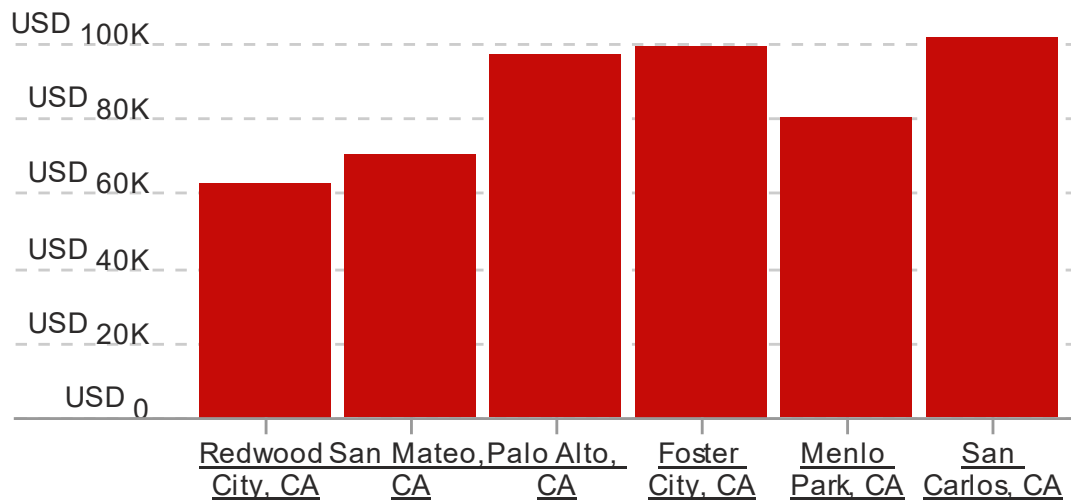
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## **Department Needs**

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# Cañada College & Socioeconomic Inequity

Median individual income: cities near Redwood City (2022)



## Cañada College is representative of its community!

- Lowest median individual income < neighboring cities
- Hispanic/AANAPISI demographics need increased access to lucrative markets through education
- Chemistry critical to all education paths in this sector

Median Income of American Indian or Alaska Native Households

Median Income of Asian Households

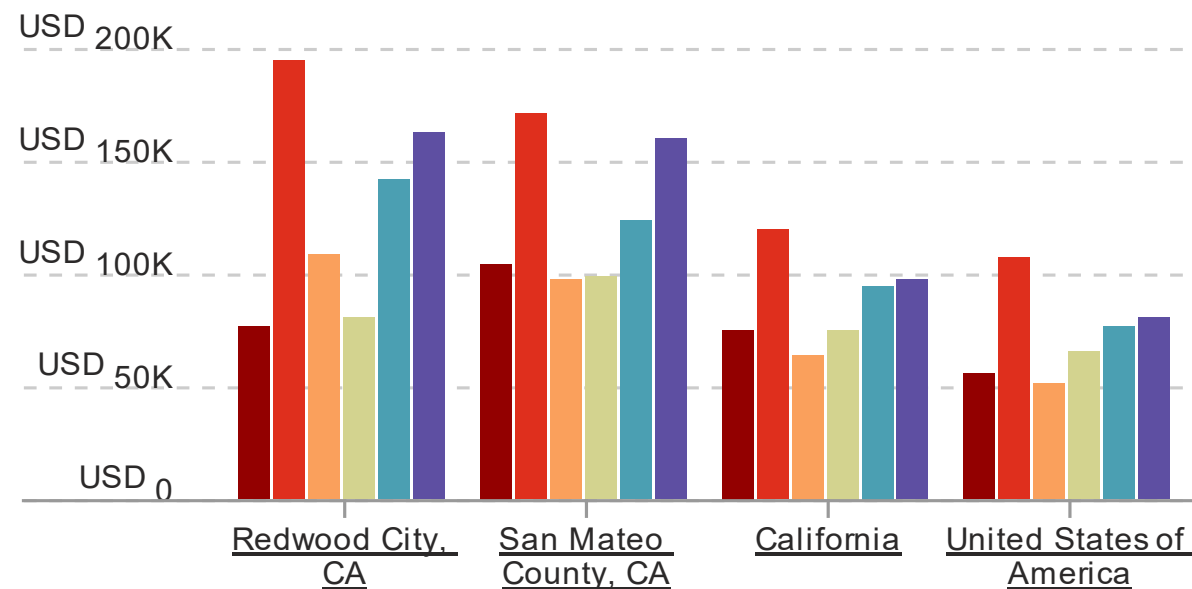
Median Income of Black or African American Households

Median Income of Hispanic or Latino Households

Median Income of Native Hawaiian or Other Pacific Islander Households

Median Income of White Households

Median household income by race: places that contain Redwood City (2022)



Data from census.gov via Data Commons

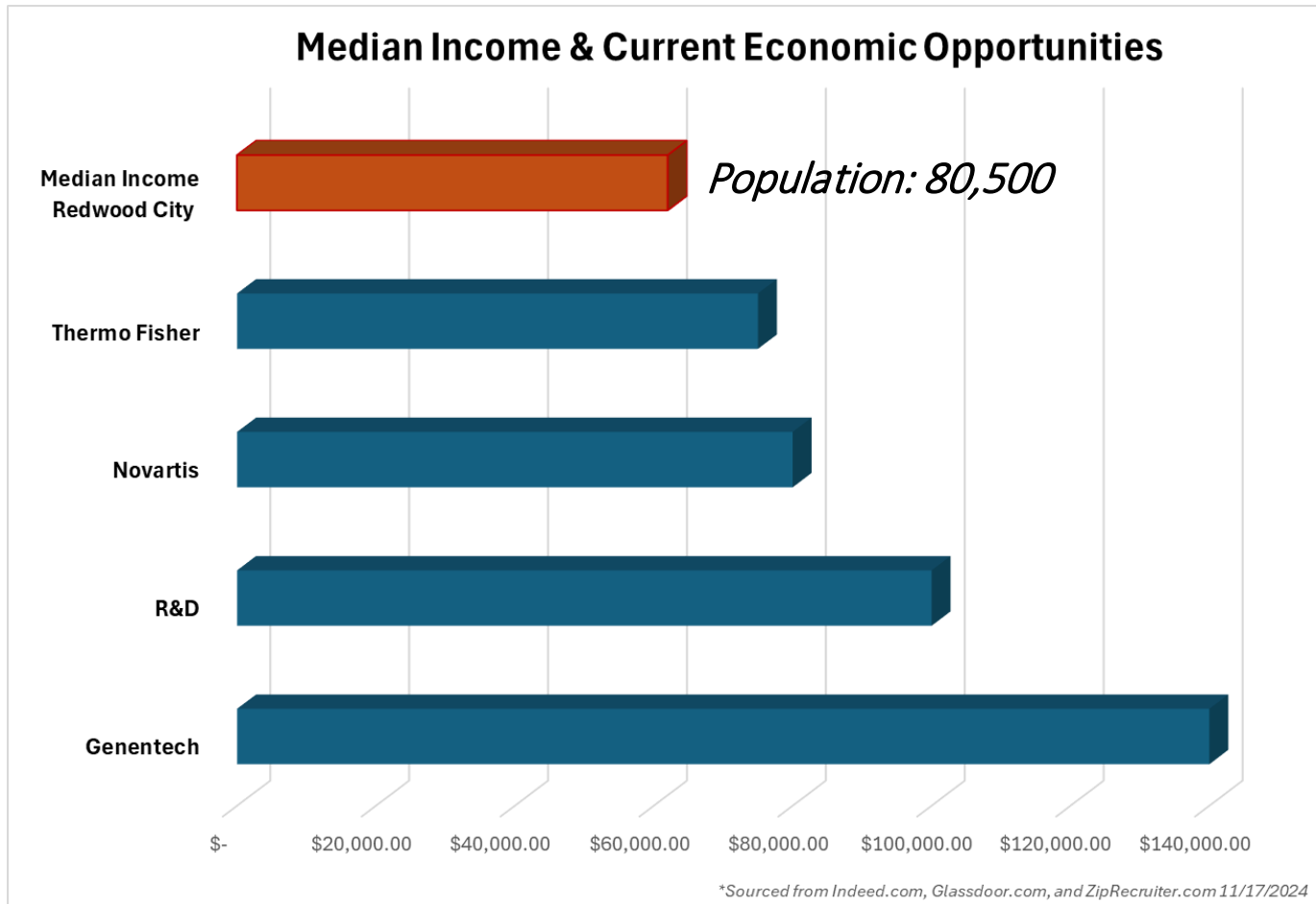


# Chemistry and Local Career Markets

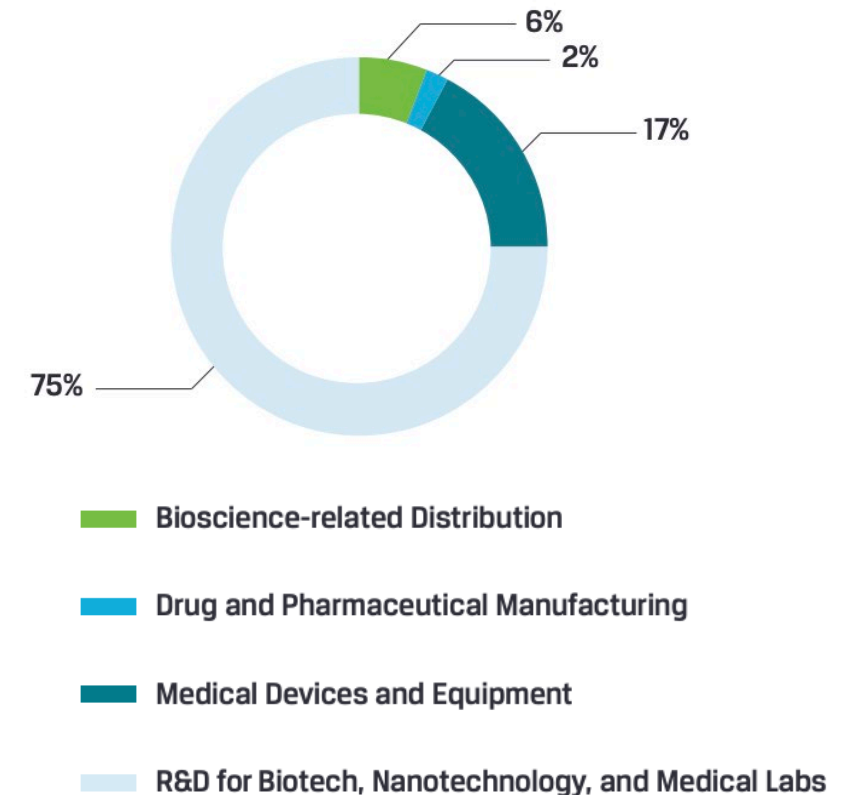
California Stats - Total direct life sciences tech employment (2023): 441,770

Bay Area Stats - Total direct life sciences tech employment (2023): 149,000

**Genentech** - Total direct life sciences tech employment (2024): 13,500, or 9% of sector



### Bay Area 2023 Employment Breakdown by Sector



# Personnel Request Overview



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## **Department Needs**

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# The Future of Chemistry at Cañada

*To align with the Department's Mission Statement, we have planned a series of actions for the near future...*

## Step 1

- Continue to increase the offering of courses and course modalities.
- Form collaborations and learning cohorts with MESA, UMOJA, and other college-wide academic support services for disproportionately impacted students in chemistry.

## Step 2

- Reinstiate the "Chem Jam" programs to prepare students for the skills and technology required for use in their chemistry courses.
- Create a series "Just in Time" co-requisite support courses to provide structured support each semester.

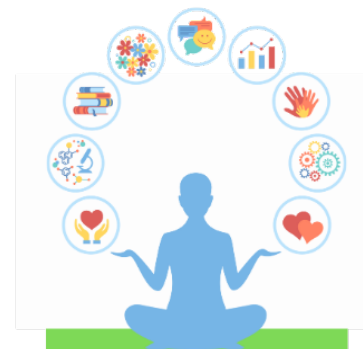
## Step 3

- Develop the Chemistry Associate in Science Degree for Transfer (AS-T).
- Develop an Associate in Science Chemical Technician Certificate Program.
  - Goal: four-year vocational baccalaureate degree.



**Step 1:**  
*Increase  
Student  
Access,  
Engagement,  
and  
Community*

*SMCCCD Strategic  
Goals 1 & 2*



**Step 2:**  
*Increase  
Student  
Success  
through  
Targeted  
Academic  
Support  
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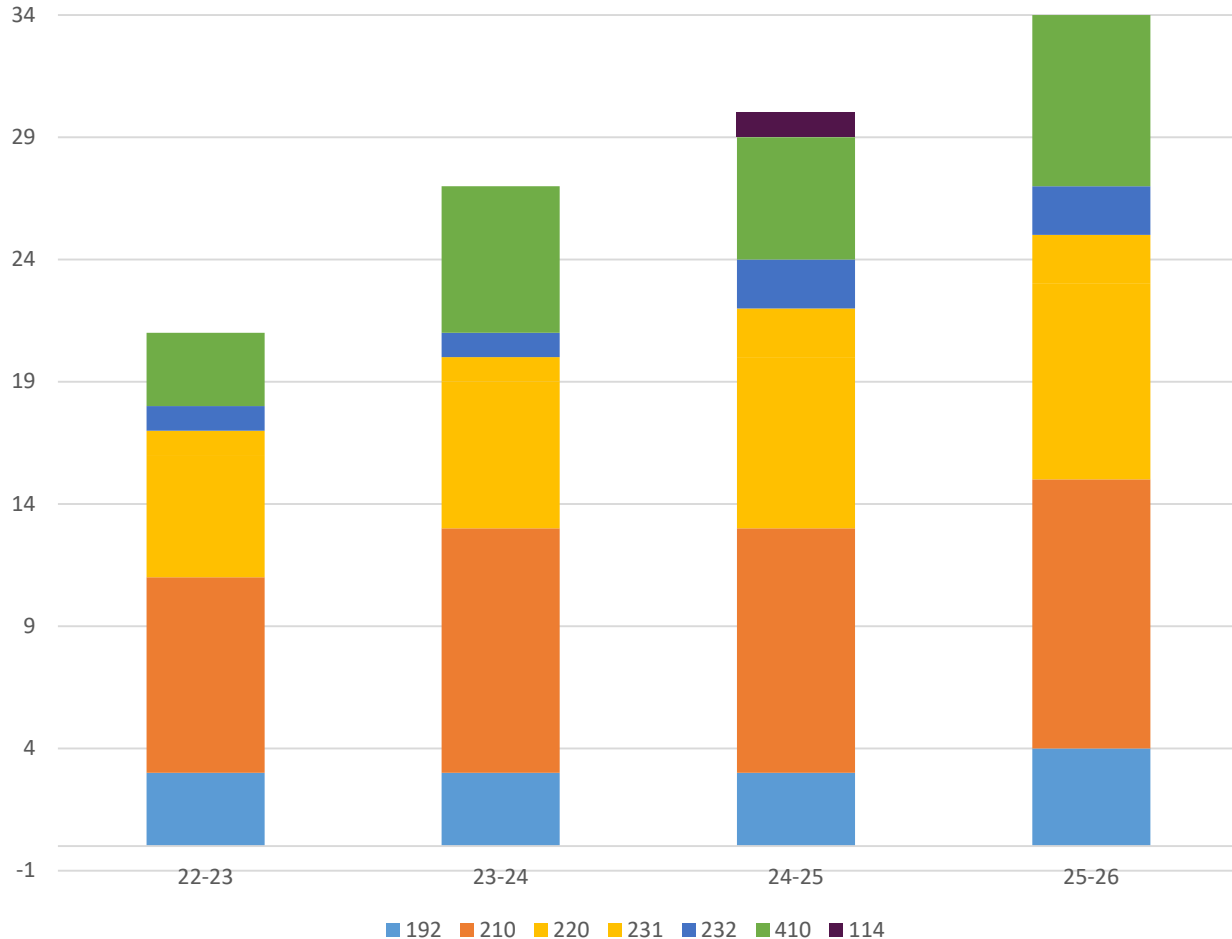


**Step 3:**  
*Develop  
New  
Program  
Pathways  
for  
Students to  
Enter  
Local  
Science  
Sectors*

*SMCCCD Strategic  
Goals 1, 2, & 3*

# Step 1: Increasing Student Access

Chemistry Courses per Academic Year

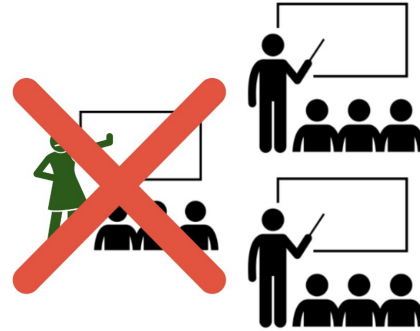


## Projected Course Offerings engaging in innovative course scheduling

Year	Sections Count
22 - 23	22 sections (9.96 FTE) Saturday sections
23 - 24	27 sections (12.6 FTE) Evening sections
24 - 25	30 sections (14.16 FTE) 42% increased Evening sections
25 - 26 Urgent Expansion	35 sections (16.44 FTE)
26 - 27 Student Demand Expansion to Guarantee Access	41 sections (19.08 FTE)

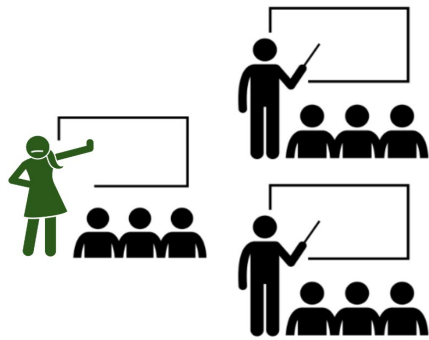
# Current Observations & Expected Outcomes

The number of sections does NOT meet student demand.

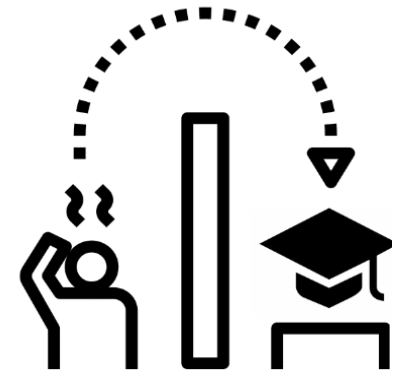


Program completion delays in:

- *Chemistry*
- *Biology*
- *Allied Health Science*
- *Early Childhood Education*



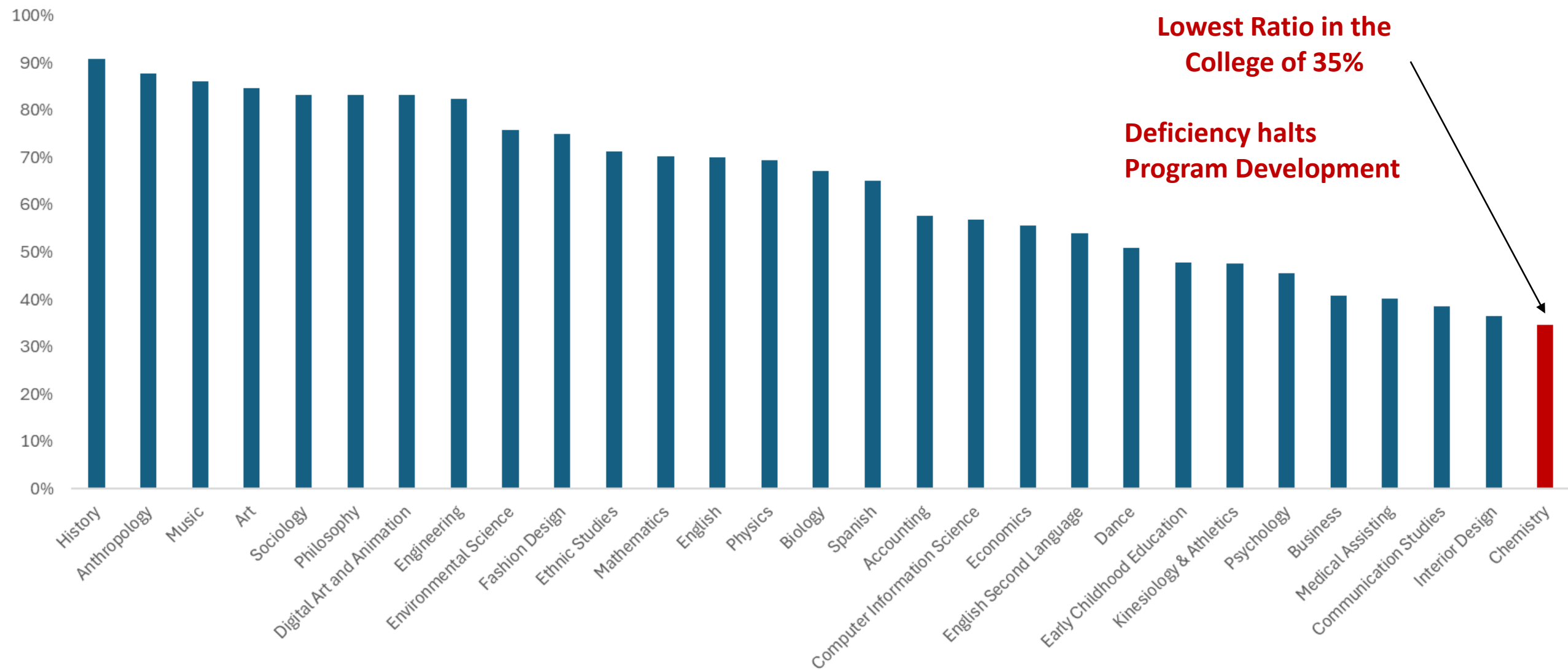
Courses CLOSE!



Insufficient faculty affect overall student retention, directly affecting the institution's mission to support student success, retention, and career readiness, especially in key fields like healthcare and STEM.

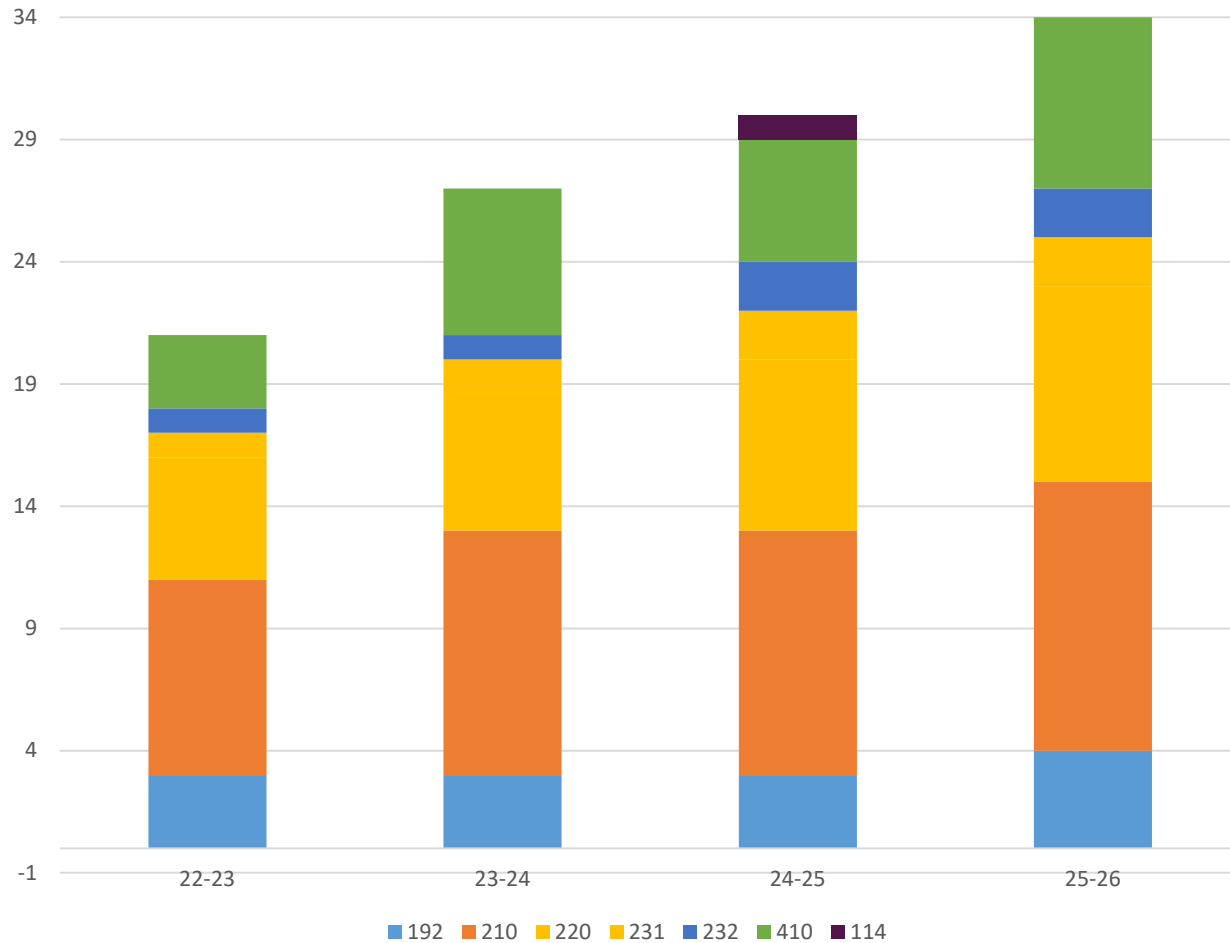
# Chemistry: The Lowest % FT:FTEF at

## % of FTEF Taught by Full-Time Chemistry Faculty



# Why Three Full-Time Faculty?

Chemistry Courses per Academic Year



## Projected Course Offerings and %FT:FTEF

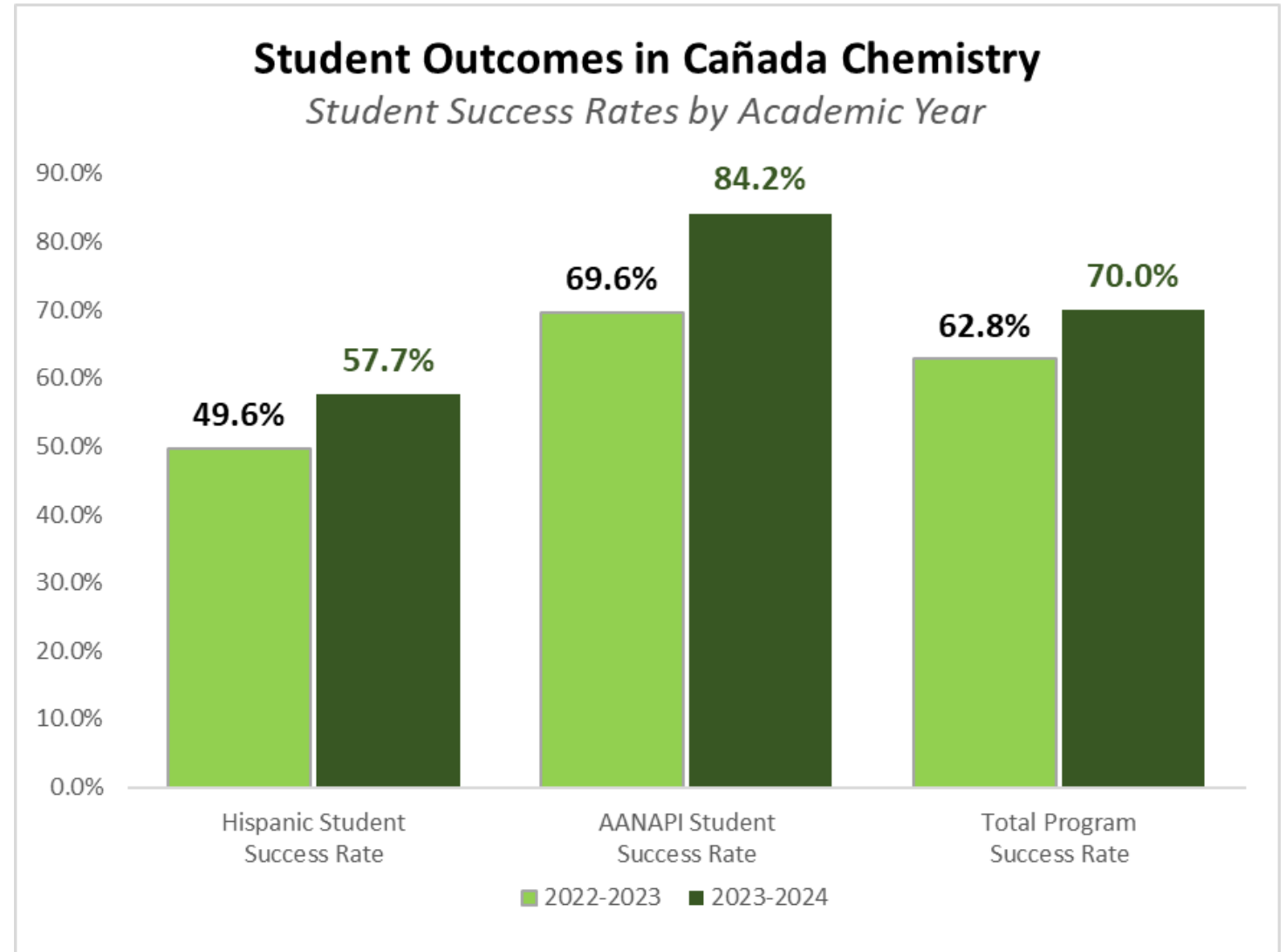
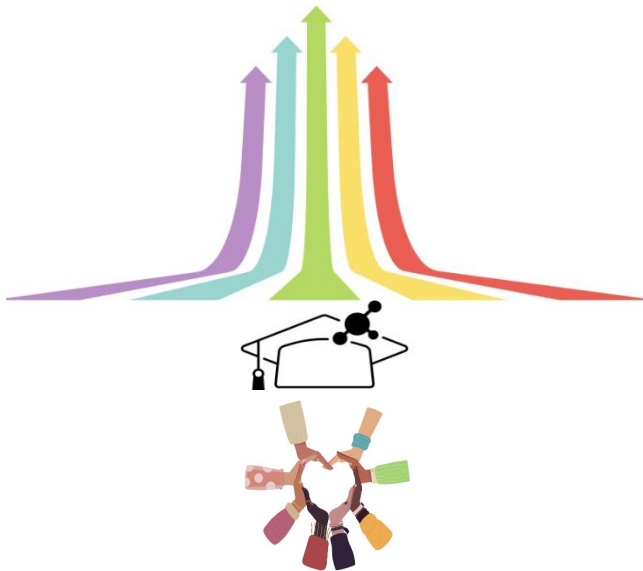
Year	Fall-Spring FTE (%FT-FTEF)
22 - 23	8.56 (24%)
23 - 24	9.08 (41%)
24 - 25	11.88 (34%) 1 section at risk of closure for insuf. amount of Instructors.
25 - 26 Urgent Expansion	13.88 (30% w/o hire) (43% 1 new FT) (58% 2 new FT) (72% 3 new FT) Lab Support (1 FT and 2 PT)
26-27 Student Demand Expansion to Guarantee Access	16.44 - 5 FT (61%) and Lab Support (1 FT and 2 PT)

# Step 2: Increasing Student Success

## FTF provide tailored academic support for underserved students:

- Mentorship and guidance
- Personalized Interventions
- Community and Belonging
- College Service Collaboration
- Representation

### Improved Student Success





# Impact of Denying This Request: Faculty



- Current FT Faculty instructional load is **31.2 faculty load credits per academic year**.
- Projected three-year average FLC = 93.6 > **maximum 91 FLC allowed in CBA**.

....this is just for instructional hours!

Add D1 duties & desired activities...

- *Evaluate 8+ adjunct faculty*
- *Comprehensive Program Reviews & SLO/PLO Assessments*
- *Governance & Committee Work*
- *Hiring Committees*
- *Professional Development*
- *ZTC/OER Development*
- *Honors Projects*
- *Chemistry Club*

The workload to the department **cannot physically be managed by 2 faculty** over the next three years, impacting:

- Participatory governance
- College function
- Faculty engagement



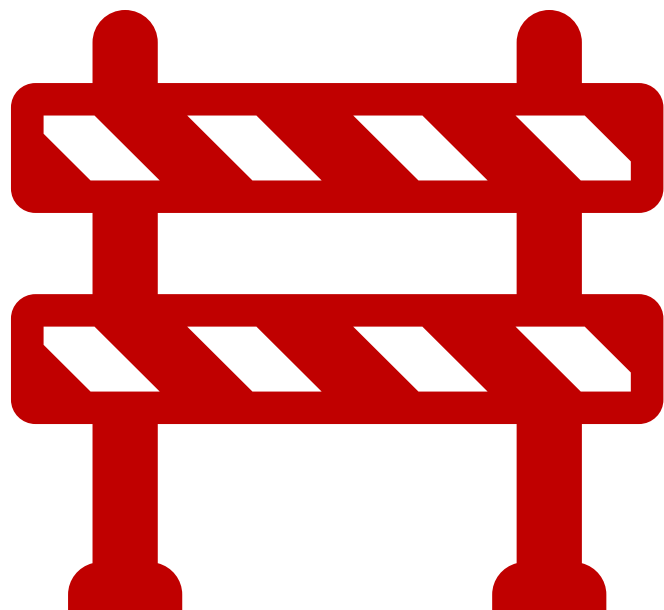
# Impact of Denying this Request: Students

Plans made to serve students will halt – **Step 1 of our Mission regresses, and Steps 2 & 3 unrealized.**

➤ *Loss for the College and the community.*



**Cañada  
Chemistry  
Mission**



**Step 1:**  
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*SMCCCD Strategic  
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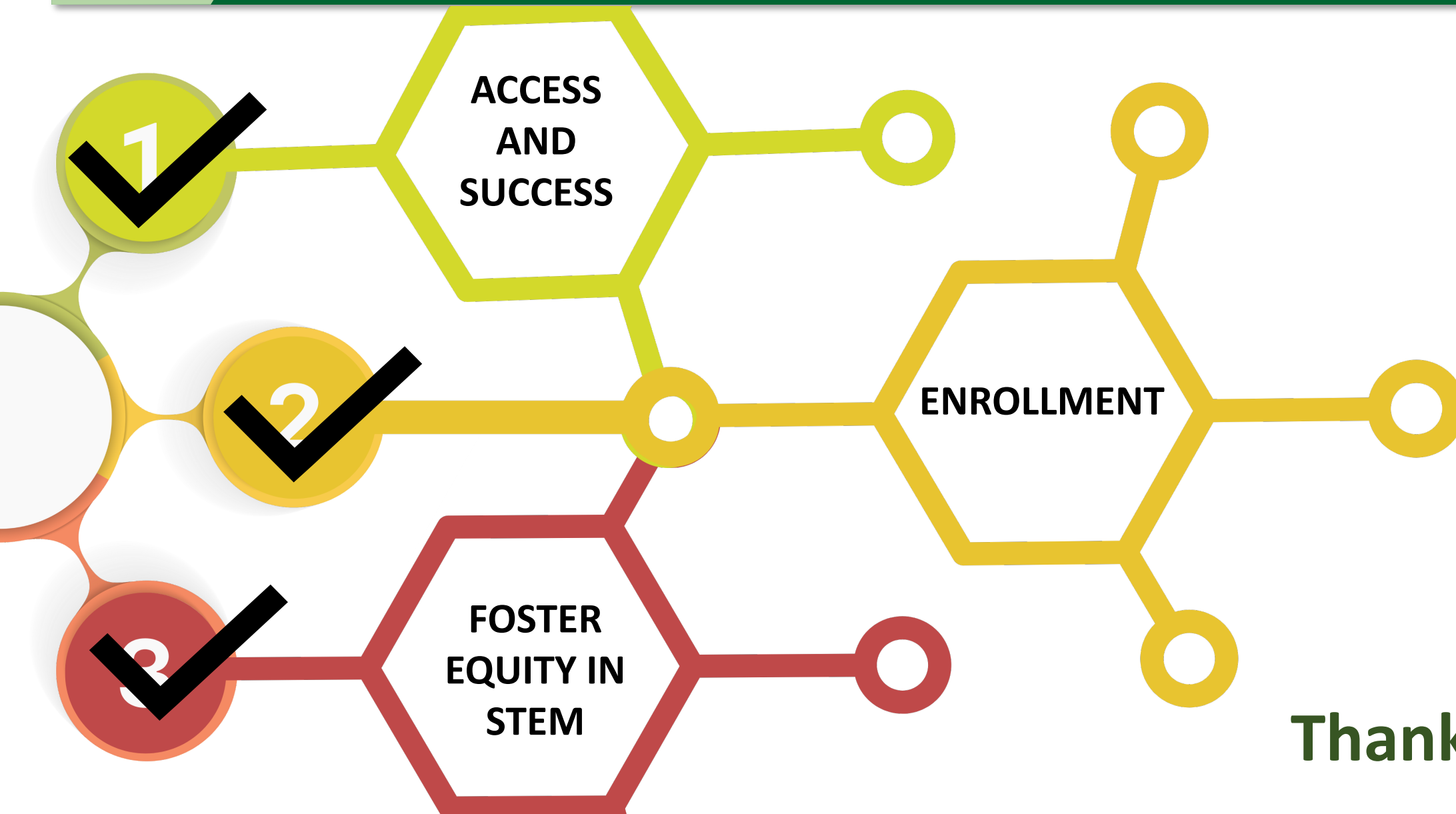
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# Investing in Chemistry Faculty Will...



**Thank you!**