De Anza Faculty Request Form

Division & Department

PSME

Name of Submitter

CHEM

Details on Faculty Positions Requested

* if requesting more than one position within the same area, please provide the area's priority ranking for each position to help inform RAPP of the priority preferences as determined by the area

Position	Replacement or Growth	Retirement/Resignation Date	Instruction, Non-Instruction, Both	If 'Both', indicate the ratio of instruction to non-instruction	*Area Ranking
Instructor 1	Growth	N/A	Instruction	N/A	
Instructor 2	Growth	N/A	Instruction	N/A	

Guiding Principles

De Anza College's mission and Educational Master Plan serve as guiding principles for programs to facilitate continuous development, implementation, assessment and evaluation of their program effectiveness as part of ongoing planning efforts.

De Anza identified the following areas within its Educational Master Plan:

- Outreach, Retention, Student-Centered Instruction and Services, Civic Capacity for Community and Social Change

Through its Equity Plan Re-Imagined, it identified the following framework to work towards narrowing long-standing equity gaps:

- Racial Equity: Faculty members, classified professionals and administrators should: recognize the realities of race and ethnicity for students of color. Develop intersectional understanding of the ways in which institutional racism shapes educational access, opportunity and success for Black, Filipinx, Latinx, Native American, Pacific Islander and other disproportionately affected students.
- Student Success Factors: The College should ensure students: Feel connected to the college; Have a goal and know what to do to achieve it; Actively participate in class and extracurricular activities; Stay on track – keeping their eyes on the prize; Feel somebody wants them to succeed and helps them succeed; Have opportunities to contribute on campus and feel their contributions are appreciated.

Based upon these guiding principles, please provide information for each of the following areas:

A. Instructional Faculty

Faculty Position Request Data Sheet

Limits: From 2019-20 to 2025-26

Fill Rates

Physical Sciences/Math/Engin - Chemistry-FD

	2019-20	2020-21	2021-22	2022-23	2023-24
Enrollments	3,219	3,229	2,732	2,795	3,074
Sections	119	124	105	113	117
Fill Rate	95%	94%	89%	89%	93%

Success and Equity

Physical Sciences/Math/Engin - Chemistry-FD

	2019-20	2020-21	2021-22	2022-23	2023-24
Success Rate	81%	78%	77%	77%	81%
Withdraw Rate	12%	14%	13%	12%	9%
Equity Gaps	-18%	-15%	-16%	-21%	-14%

Faculty Load Ratios

Physical Sciences/Math/Engin - Chemistry-FD

	2019-20	2020-21	2021-22	2022-23	2023-24
Full Time	31%	28%	33%	30%	28%
Part Time	54%	57%	49%	54%	55%
Overload	15%	15%	18%	16%	18%
FTEF (full time only)	5.4	4.9	5.1	4.8	4.7

Data is for the academic year, including summer term and early summer/second spring terms for Foothill College. Enrollments include students who are counted for apportionment for the report years (i.e., Apprenticeship, noncredit and other students who do not necessarily have a reported grade). Cross-listed courses are included in the home department. Some courses may continue to be listed but no longer have data due to renumbering or because the course was not offered in the past five years.

1. How does the department use the data listed above to develop, adapt, and improve teaching and learning to respond to the needs of changing environments, populations served, and evolving institutional and state priorities?

The department regularly evaluates enrollment and success data in seeking to ensure that our departmental offerings meet the needs of the student populations that we serve. This has led to a meaningful increase in the number of sections offered for our introductory general, organic, and biological chemistry survey course as students pursue career pathways in allied health fields.

In the years prior to the pandemic, our program had an enrollment close to 2900 students and we offered 105-110 sections. We were able to temporarily increase the number of sections offered (and enrollment) from Spring 2020 – Fall 2021 because all our courses were offered online, freeing us from the usual staffing and facliities scheduling challenges for in-person lectures and labs. This allowed us to meet a larger portion of our student demand. We returned to in-person labs in the Winter 2022 quarter which led to some unpredictable swings in enrollment, though these have mainly subsided. We have continued to leverage hybrid modalities and Friday class offereings to increase course access, reacting both to student demand and facility constraints. In comparison to historical, pre-pandemic data (reference 2017/2018) our enrollment is up 6.5%. Given the high demand for our program, this increase is a positive development indicating we are able to serve more students that require this fundamental STEM course.

2. Other information, if any?

B. Non Instructional Faculty

1. Describe the data used to develop, adapt, and improve teaching, learning, and/or support to enable this position to respond to the needs of changing environments, populations served, and evolving institutional and state priorities (this may include a description of the population served, student needs and experiences from surveys or focus groups, or ratios related to the number of students served relative to current occupational standards).

N/A

2. How does the program use these data to develop, adapt, and improve teaching, learning, and/or support to respond to the needs of changing environments, populations served, and evolving institutional and state priorities?

N/A

3. How does the position support on-going college operations and/or student success?

N/A

C. Instructional and Non Instructional Faculty Justifications

1. Why is the position needed and how would the position contribute to the health, growth, or vitality of the program?

The department has expanded its course offerings by nearly 50% in the last two decades, however the number of full-time faculty is the same as it was in the 1999-2000 academic year. Since 2013 full-time load has decreased 4% while part-time load has increased by 33%. The share of courses taught by full-time faculty has dropped to under 30%. This places the department's full-time load percentage drastically below the level prescribed by the American Chemical Society and the State of California (75%). The department needs to mitigate our low %FT ratio and ensure that we can reliably staff our current course offerings. As we compete with surrounding colleges and the vibrant technology sectors, it is increasingly difficult to hire/retain qualified instructors. Our high-demand courses frequently verge on cancelation, necessitating full-time faculty take additional overload. The first growth hire will allow us to support the current volume of the program, including maintaining updated curriculum, performing SLO analyses, and upholding standards of academic excellence and transferability/articulation.

The second growth hire will allow the department to expand applying evidence-based classroom strategies, bridging our equity gaps and enhancing student success, supporting our part-time faculty to offer excellent instruction in lecture and laboratory sections, and exploring the feasibility of offering a certificate. We will ensure our lab program receives overdue updates to (i) increase its relevance and (ii) reduce costs to students. Moreover, a second growth hire will allow us to offer additional sections of General Chemistry and Organic Chemistry. We see our largest equity gaps in our introductory courses that form the foundation for the remainder of the two-year chemistry sequence. We aim to improve student outcomes in these courses; however, we lack the personnel to shepherd additional students through the chemistry sequence. These growth positions will improve student success, outcomes, and equity.

2. How does this request align with the goals in the Educational Master Plan?

The addition of full-time faculty to the chemistry department will improve student success and close equity gaps by enabling a renewed focus on student-centered learning, outreach to incoming students, and civic engagement through information literacy and sustainable practices. The addition of full-time hires will allow our faculty to devote more attention to students and to take thoughtful steps toward increasing engagement in the classroom, rather than working overtime trying to ensure that classes are staffed and labs are operational. There are only so many hours in a day, and when all of them are spent on keeping the current program running, there is little opportunity for growth or change, contribingut to an increasing irelevancy if left unaddressed. A single growth position in chemistry supports our core educational mission of guiding students in developing the knowledge and skills necessary to succeed in STEM transfer programs and career paths.

Furthermore, a larger complement of full-time faculty will allow the department to quickly move forward with planned efforts to reduce barriers to student persistence, specifically in the adoption of low or zero-cost course materials. We have adopted OER materials for lecture textbooks in some of our courses; however, challenges persist with respect to our lab program, in which we continue to rely on costly and out-of-date publisher-provided procedures. To modernize our lab program and ensure our students remain competitive in their chosen career fields, we require a much more substantial input of faculty time than is possible given our current staffing levels and available hours. Additional full-time faculty support would ensure that we can move more efficiently toward an up-to-date culturally and gobally relevant lab curriculum that ensures students are developing competencies that are critical to modern laboratory work and utilize sustainable and safety-minded practices, while reducing the cost burden for students.

3. How does this request align with the College's Equity Plan Re-Imagined?

With additional full-time faculty, students will receive additional support through individual feedback on assignments, substantive interaction with instructors outside of class, and support for independent study research projects. Our students will be confident that their instructor believes in their ability to succeed and is interested in making sure they have all the tools to do so. Students will be competitive when applying to transfer as well as to professional programs and STEM-related occupations.

A full-time hire will contribute to the work associated with maintaining and updating our lab programs, and free up time to pursue additional initiatives aimed at closing equity gaps that have been discussed in the past (e. g. identifying a mechanism and funding source for embedded tutoring in introductory courses, creating LinC courses with MATH to support cohorts for commonly co-enrolled sequences, developing learning activities that highlight contributions of underrepresented groups to chemistry, engaging students in current scientific advances, etc.).

A second hirebeyond what we consider necessary for program maintenance will allow us to fulfill a longstanding goal of supporting faculty professional development, particularly for our part-time faculty. We will bolster the support that we provide to our part-time faculty in terms of their initial introduction to the department and campus. We will also provide ongoing support and mentoring through communities of practice that educate our instructors on race-conscious chemistry education practices. These efforts will support the recruitment and retention of a diverse pool of teaching faculty with excellent, equity-focused pedagogical standards.

4. Are there any special regulations such as law, Title 5, Education Code, student success initiative or accreditation standards, etc. for the position? Provide documentation.

To the best of our knowledge, there are no such special regulations that apply to these faculty requests.

5. Explain how the work will be accomplished if the position is not filled.

The simple answer is that that progress on the improvements discussed above will not be possible without additional faculty support. As chemistry instructors, we are deeply devoted to our field and to the success of our students. We desperately want to ensure our students thrive in their chemistry courses at De Anza College and help them develop skills that they need to continue that success and enthusiasm in their transfer or professional programs. We are particularly attuned to the sizable equity gap in our introductory courses as well as the unfortunate legacy of institutionalized racism in physical sciences, and we want to implement evidence-based strategies and activities to close our equity gaps. At present, we lack the personnel to implement impactful pedagogical changes on a program-wide level or to provide significant training or support to our department faculty on these topics. Some updates to the program, such as substantial revision of lab curricula, could be undertaken through professional development leave projects, though of course such projects will effectively reduce our staffing levels even further while they are

underway and while the department can encourage these projects, individual faculty may have other personal development goals.

6. Other information, if any.

The Chemistry department acknowledges that it has a faculty member that has had full release for the past 3 years and significant release for roughly 7 years before that. While the return of this faculty member to full-time teaching would provide support for the projects mentioned above, it is worth noting that, using the data from 2023/24, the percentage of FT load would increase to only 33% from 27.7%, leaving the FT faculty ratio still far below the recommended levels. Even if that faculty member were to return to teaching full time, our justifications remain relevant as our program continues to grow balanced mainly on the backs of part-time faculty.

Dean's Comments

As outlined in the report, the Chemistry Department has a significant need for the growth position due to several factors. Although the number of course sections and overall enrollment has increased over the past ten years, the number of full-time faculty has not kept pace; in fact, it has declined, as one full-time faculty member is currently on full release for their shared governance responsibilities. Additionally, there is a need to expand offerings to include more Friday sections and to launch a Saturday program, an initiative the President has expressed interest in supporting. Currently, only one-third of Chemistry courses are taught by full-time faculty. For safety reasons—particularly in lab instruction—it is crucial to increase the proportion of courses taught by full-time faculty to ensure consistency and maintain high standards of instruction. Being able to hire the growth positions also gives an opportunity to seek faculty of diverse background to enhance the faculty team and serve our very diverse students even better.

This form is completed and ready for acceptance.