Faculty Request Form - Fall 2024

Department/Area and Name of Submitter

BIOLOGY / BHES Anita Muthyala-Kandula, Dean BHES

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 Name	Replacement or Growth	Retirement/Resignation Date	Instruction, Non-Instruction, Both	If Both, indicate the ratio	*Area Ranking
Biology Instructor	replacement	6/30/2024	Instruction		1

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 above, please refer back to the comprehensive program review to inform your response below (see the following areas in the comprehensive program review: Reflect on Enrollment Trends, CTE Programs - Statewide and Regional Labor Market Trends, Exploring Course Success Rate Trends, Exploring Gaps in Successful Course Completion by Ethnicity, Teaching and Learning Strategies, Trends in Awards and Staffing Needs).

A. Instructional Faculty

Faculty Position Request Data Sheet

Limits: From 2018-19 to 2025-26

Fill Rates

Biol, Health, Env Sc, Wrkfr Ed - Biology-FD

	2018-19	2019-20	2020-21	2021-22	2022-23
Enrollments	4,549	4,308	4,693	4,468	3,858
Sections	173	164	158	151	145
Fill Rate	96%	94%	99%	97%	88%

Success and Equity

Biol, Health, Env Sc, Wrkfr Ed - Biology-FD

	2018-19	2019-20	2020-21	2021-22	2022-23
Success Rate	78%	81%	82%	82%	81%
Withdraw Rate	10%	9%	10%	9%	9%
Equity Gaps	-8%	-10%	-12%	-11%	-11%

Faculty Load Ratios

Biol, Health, Env Sc, Wrkfr Ed - Biology-FD

	2018-19	2019-20	2020-21	2021-22	2022-23
Full Time	53%	48%	46%	46%	55%
Part Time	37%	38%	37%	33%	27%
Overload	10%	15%	17%	21%	18%
FTEF (full time only)	9.7	8.4	8.5	8.2	9.5

Awards

Biol, Health, Env Sc, Wrkfr Ed - Biology-FD

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Certificates	0	0	0	0	0	0
Associate Degrees	17	26	39	19	12	19
Associate Degree for Transfer	0	0	4	13	13	32

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? Be sure to refer back to your Comprehensive Program Review form to inform your response.

The Biology department uses the data above to make informed decisions in offering a broad range of quality courses. We offer classes for students pursuing Biology majors degrees to transfer to 4-year universities; we offer prerequisite classes for students pursuing careers in Nursing, Dentistry, Pharmacy and other allied health disciplines such as HTEC, MLT, Radiology technology, Veterinary technology, EMT, Dental Hygiene etc. We also provide classes that meet the natural science, life science or biological science requirements for all students aspiring to graduate or transfer.

Within the classrooms, faculty foster a multicultural learning environment that promotes critical thinking, critical inquiry, and a respect for diversity and equity. They encourage an appreciation of biological concepts that help students make informed, independent, and reflective decisions around global, cultural, social, and environmental issues.

We have responded to students' need for hybrid instructions with lectures online avoiding commute limitations, such as distance, traffic, gas costs, etc. We continue to provide our students with hands on laboratory experiments and we use software resources and simulations to expand the laboratory experience. We provide students with resources such as models, skeletal bones, slides and reference materials to use within the science resource center to expose themselves to the scientific experience outside of formal classroom time and when they are already on campus. Faculty are also exploring quality OER

resources to further make our courses equitable but still comprehensive. By providing students with these resources we provide them with the tools to confidently and effectively communicate and express their perspectives so that they can thrive in a world increasingly shaped by science and technology.

Finally we also support students, reinforcing skills and habits that allow for their physical and mental wellness.

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, be sure to refer back to the program review where applicable).

N/A

C. Instructional and Non Instructional Faculty Justifications

1. How does this request align with the goals in the Educational Master Plan? (refer back to the comprehensive program review areas: Mission and Program Goals).

The Biology Department supports and reinforces the mission of De Anza College by fostering a multicultural learning environment that promotes critical thinking and inquiry, and a respect for diversity and equity. We support students, reinforcing skills and habits that allow for personal responsibility, accountability, physical and mental wellness.

By offering a broad range of quality courses, we meet diverse student needs—to enhance further education in the biological sciences, or in related courses across the college, or to support general education so all students can realize their educational goals. Our goal is to prepare students for future careers in the life sciences, and/or instill in all of our students an understanding and life-long enthusiasm for the biological sciences.

The Biology department's mission statement aligns with the college's vision in empowering our students to attain their educational goals, and being able to use the knowledge and understanding of biological concepts from our courses to become active contributors and socially responsible leaders within their communities and beyond.

Like the mission statement of the college, the Biology department wants to challenge students of all backgrounds to develop into critical thinkers who can make informed and independent decisions using the skills they obtain from taking our courses. The Biology department's mission statement embraces the values of the college and you can find them within our statement, and more importantly, within the day to day instruction of our students. Elements of those values: integrity, innovation, equity, developing human capacity, and the institutional core competencies of the college can be found throughout the department's mission statement.

2. How does this request align with the College’s Equity Plan Re-Imagined? (refer back to the comprehensive program review areas: Exploring Gaps in Successful Course Completion by Ethnicity and Teaching and Learning Strategies)

This position aligns with the College’s Equity Plan Re-Imagined by continuing the work needed within the department to develop strategies for increasing or maintaining current success rates. Having discussions about OER adoption and alignment of courses, and coming to a consensus about them may help to increase or maintain current success rates. This can only be done with the time commitment and resources afforded to and by our FT faculty. Other strategies include utilizing the Student Success Center, the Connect program, and working with MESA to help students succeed in our courses.

An interesting trend that occurred when looking at the different courses in the department was that all courses in the Biology majors year-long sequence (6A, 6B, 6C) showed the continued increase in success rates in 2023-2024 when compared with previous years. In addition, courses that have year-long course sequences (Biology 6 A,B,C & Biology 40 A,B,C) showed higher success rates within each course, which may indicate that the efforts instructors are providing through the proper preparation for each subsequent course.

These course success rates align with our department's goal of preparing our students for future careers in the life sciences, as illustrated by the biology majors' sequence showing the highest success rates in 5 years, and both year-long course sequences showing higher success rates with each course in the sequence. In addition, providing a quality education and instruction for the general education of De Anza students is evidenced by the increased success rates in the courses that meet the natural science, life science or biological science requirements for all students aspiring to graduate or transfer - Bio 10, Bio 11, and Bio 13.

3. How does the position support on-going college operations and/or student success? (refer back to the comprehensive program review areas: Exploring Course Success Rate Trends, Exploring Gaps in Successful Course Completion by Ethnicity, Teaching and Learning Strategies)

The De Anza College Biology Department educates approximately 5,300 Biology students each academic year. The Biology department has seen an increase in enrollment in 2023-2024 with a 4.9% increase in enrollment from 2022-2023. In order to maintain this increase, the Biology department will continue to be active in outreach opportunities at De Anza College. In addition, the Biology department continues to see long wait lists and student demand in the prerequisite Bio 40 series and the Biology majors 6 series courses.

Adding more sections of these courses would help improve enrollment and our ability to serve students. In looking at the enrollment trends of specific student groups over the last 4 years, we had an increase in Latinx students (+3%)and students who declined to identify by race and ethnicity (+2%), Black, Native American and Pacific Islander student percentages stayed the same and Filipinx, White, and Asian students showed a small decline.

The overall success rate has improved by 2% over the last 4 years, and is now at 83%.

There are three groups of students (Black, Latinx, Pacific Islander) that show disproportionate impact in success rates by ethnicity. However the success rates of Black students has increased over the past 4 years (+1%); the success rates of Latinx students has increased over the past 4 years (+ 6 %); the success rates of Pacific Islander students has increased over the past 4 years (+ 8 %). Filipinx students have shown very strong success rates in Biology matching the department success rates in 20-21 to exceeding them in 23 – 24 with a success rate of 85%.

The Biology department would like to continue to see success rates increase for all groups of students, even if they don’t show a disproportionate impact. Hiring of a FT faculty would help to address this goal.

4. Why is the position needed and how would the position contribute to the health, growth, or vitality of the program? (refer back to the comprehensive program review area: Staffing Needs)

The position teaches the Biology Majors series -we have a HUGE demand, LONG wait lists and often very IRATE students who cannot get the classes they need to transfer or finish their pre-requisites. The Biology majors series - Biology 6A (Form and Function in the Biological World); Biology 6B (Cell and Molecular Biology) and Biology 6C (Ecology and Evolution). These are each 6 unit classes with 4 hours of lecture, and 6 hours of lab per section. A full-time faculty teaches two sections each quarter. And they teach the series in its entirety. This creates a cohort model for the students as they progress through the biology major series. Only a full-time faculty can carry this load. By having part-time faculty teach this series, we would piecemeal course delivery through this rigorous biology series. Students would not only have to learn new material each quarter, but also learn new teaching and learning styles. This interruption could have an impact on student success rates. One of the concerns and requests of students every quarter is continuity of

instructors through the three part series for consistency and the establishment of cohorts that move with one instructor. Hiring a FT faculty would help to address this.

In order to maintain and more importantly continue to grow the retention and success rates of our students, the Biology Department uses a variety of teaching methods such as hybrid classes and simulation labs. There are tutoring opportunities, clubs and special project opportunities available to students. These are affected by the lack of FT faculty positions. When students are at risk of failing, the full time faculty coordinate tutoring or other support activities for the students to facilitate their retention and success. Part-time faculty are valued members but do not have the luxury of time for these duties.

5. Describe the current staffing and history of staffing in your area and how the current staffing affects the health, growth, or vitality of the program. (refer back to the comprehensive program review area: Staffing Needs)

At the present time, we have a need for full-time faculty in the Biology 6 series.

Biology courses are in high demand, fill within days of open enrollment and have long wait lists. Our inability to offer additional sections is because of lack in FT faculty. The high number of part time faculty fragments the goals of the Department due to lack of participation in the business side of the Biology Department including curriculum work, student mentoring and department work. In our community and beyond there is high student demand for De Anza's Biology classes due to the highly favorable reputation of instructors and their teaching styles and having additional full-time faculty member in this area will help to ensure the program's continued vitality.

The strategies that we have in place to ensure the success of our students even when faced with some deficiencies in instructional staffing is by our ability to maintain a very talented and experienced group of part-time faculty. Many biology departments from colleges in our area have lost part-time faculty due to the cost of living in the area. We have been fortunate to have a group of part-time faculty members who go above and beyond for their students and for our department. Part of our strategy is to continually let our part-time faculty know how much they mean to the department as well as to give them the voice in the department that they deserve. Unfortunately in the case of some courses including the Bio 6 series the load for a Bio 6 faculty precludes allowing PT faculty to teach these courses every quarter.

We have excellent classified staff who are essential to our programs viability. All Biology classes have robust labs We would not be able to conduct our classes and support our students without classified staff.

6. Explain how the work will be accomplished if the position is not filled. (refer back to the comprehensive program review areas: Staffing Needs)

The Biology 6 series consist 6 unit classes that have an enrollment of 64 students in lecture sections with 6 hours of lab every week. Due to the hours and loads, these sections cannot be covered by PT faculty. One of the concerns and requests of students is continuity of instructors through the 3 part series for consistency and the establishment of cohorts that move with one instructor.

Failure to fill this position would result in: the equity gap remaining open and possibly increasing. To maintain the retention and success rates of our students, FT faculty use a variety of teaching methods such as creating tutoring sessions and open labs .

When students are at risk of failing, FT faculty assist them in creating a plan for success, monitor their progress, and coordinate the tutoring, remediation or other support activities for students to facilitate their retention and success. Most PT faculty don't have the time to spend more than the required course hours with students.

Failure to fill this position would affect further growth of students served by the department i.e. enrollment, which would be seriously impacted. Full time faculty are needed in the Biology Department to address the

problems of student retention, success and equity and cannot be met by the reduction in a full time faculty position. **Student demand for our courses remains high and many students are left on waiting lists at the beginning of the quarter due to lack of instructors to teach courses.**

7. Other information, if any.

N/A

Dean/Manager Comments (Deans, please review the form for completeness and clarity and provide additional details as needed)

I strongly support the hiring of this position.

As noted above we have high demand for all Biology classes but this is especially true for the Biology major series. Our classes fill quickly within days of open enrollment and wait lists also fill up. As mentioned previously the load for these rigorous lab heavy classes is too high for a PT faculty to take on so students end up having multiple instructors. We have found that having the same instructor for Bio 6A, 6B and 6C creates a cohort model as the students pass through the classes. They forms study groups, friendships and support for each other as they tackle a tough subject matter. These alliances often extend beyond the biology courses and enrich their experience at the college bringing them back to take more classes.

We are also able to provide our students with many resources such as space and study materials in the science resource center. Our FT faculty have the time to dedicate to learning about all of these resources and engaging their students outside of formal class time. They have the opportunity to consulting with each other about new methodologies, technology resources and/or OER exploration. Our PT faculty are magnificent, but to survive in this valley they need to take on multiple assignments at different college and their attention to all their students, by necessity, is limited.

Failure to hire this position will seriously impact the department's ability to serve our students. Please do consider approving this position for hire.

This form is completed and ready for acceptance.