



## New Classified Staff and Administrator Request Justification

### Complete One Per Program/Area

**Date:** 11/6/2023

**Division:** PSME

**Program/Area:** Physics

**Number of Positions Requiring New Funding (does not apply to refilling existing positions):** 1

| Requested Position               | Classified or Administrative Position | Salary Schedule or Position Grade | Area Ranking* |
|----------------------------------|---------------------------------------|-----------------------------------|---------------|
| Physics lab technician           | Classified                            | C1-47 (\$68,886.86-\$92,210.07)   | One!          |
| Click or tap here to enter text. |                                       |                                   |               |
| Click or tap here to enter text. |                                       |                                   |               |

\* 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.

### 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. Program Information**

1. Provide a brief job description of the position in 3-4 sentences so the committee can better understand the scope and duties of the position.

The main function of the lab technician is to assist students with utilizing lab instruments, materials, and equipment in a safe and proper manner; answer technical questions; tutor students in assigned lab as necessary; demonstrate proper use of equipment and materials.

Prepare and set up tools, equipment and materials for demonstrations, experiments, or instruction for the assigned lab; inspect lab for safety hazards and make corrections as necessary; demonstrate safety procedures as necessary. Order, issue and inventory supplies and equipment; assure the safe and proper storage of supplies, materials and equipment.

2. Provide a brief overview of the services the program provides and how they align with the mission of the college. How does the program facilitate continuous development, implementation, assessment, and evaluation of program effectiveness and goal attainment congruent with institutional [mission](#), the [Educational Master Plan](#) and ongoing planning efforts?

The physics department provides courses that are equivalent to the first two years at the university level. The mission of the physics department is to instill an understanding of the fundamental laws of nature such that also developed is a student's ability to think critically and independently. This applies to every single student regardless of their race, ethnicity and social-economic background. Our mission also is dedicated to increasing the success rate of minority, under-represented students in physics.

3. How does the program respond to the needs of individuals, constituents, and populations with distinct needs to ensure equitable access for all students?

We have discussed increasing the amount of recitation sections to support students in non-lecture class situations. An idea similar to the MPS program in math. We have also considered re-apportioning the amount of lecture vs. lab time in order to support students in small group settings. We are also encouraging early intervention (first week) to identify students that need

support to continue in the class. We plan to offer some classes in the online format to accommodate students that have special scheduling circumstances.

Additionally, It is also essential that our lab technician position be restored if we have a realistic chance of significant change in the success rate of targeted groups and reduce the equity gap. Targeted groups are affected disproportionately because of the absence of a lab technician that helps bring the subject matter “alive” for students coming from disadvantaged backgrounds. A lab technician allows the department to:

- a) conduct lectures with relevant physical demonstrations that positively impact targeted student populations
- b) have a physical presence on the campus with displays that encourage participation in the program particularly for targeted groups that may not have a background that involved exposure to the direct application of physics principles in the community (solar cells are for example a conservation energy idea: a large display of this would draw attention of students). There should be a different display every two weeks on the quad to bring in students with a “show me” mindset. Without the lab tech we can’t do this. With a lab technician these outdoor activities would lift up the creative spirit of the physical sciences on campus.
- c) maintain lab equipment. Failing equipment decreases the number of “setups” for experiments that can be conducted; this causes larger lab groups and decreased participation particularly among students in targeted groups who are likely to “hang back” and allow other students to take the lead (in a student group of 3 or 4 instead of 2)
- d) lab instruction is reduced as professors spend more time doing provisioning of equipment
- e) Our department has grown in enrollment, and each of these problems listed becomes even more problematic as our requests are ignored.

4. What evidence does the program use to create strategies for improving student learning, development and success?

#### SLOs and Program Review Data Sheet

5. What assessment plans and processes does the program use to document progress toward achievement of its mission, goals, outcomes and objectives?

By analyzing the results of the SLOs, Program review, and Student success rates we can then assess how well or what improvements need to be made towards achieving our goals and objectives.

6. How does the program develop, adapt and improve programs and services in response to the needs of changing environments, populations served and evolving institutional priorities?

Using the assessment plans listed on #5 we have discussed increasing the amount of recitation sections to support students in non-lecture class situations. An idea similar to the MPS program in math. We have also considered re-apportioning the amount of lecture vs. lab time in order to support students in small group settings. We are also encouraging early intervention (first week) to identify students that need support to continue in the class. We plan to offer some classes in the online format to accommodate students that have special scheduling circumstances.

7. What types of disaggregated data are used to address the program objectives?

The program review sheet provides invaluable data to assess the program objectives.

8. What are the historical staffing patterns within the program over the last few years?

We've had 3 full-time instructors, 6 part-time instructors, and 1 instructor on Article 19 the last 2 years. There is currently NO lab-technician. This position was eliminated in 2012 due to budget constraints.

**B. Justification for EACH requested position, please respond in 300 words or less.**

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

It is also essential that our lab technician position be restored if we have a realistic chance of significant change in the success rate of targeted groups and reduce the equity gap. Targeted groups are affected disproportionately because of the absence of a lab technician that helps bring the subject matter "alive" for students coming from disadvantaged backgrounds. A lab technician allows the department to:

- a) conduct lectures with relevant physical demonstrations that positively impact targeted student populations
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have a background that involved exposure to the direct application of physics principles in the community (solar cells are for example a conservation energy idea: a large display of this would draw attention of students). There should be a different display every two weeks on the quad to bring in students with a “show me” mindset. Without the lab tech we can’t do this. With a lab technician these outdoor activities would lift up the creative spirit of the physical sciences on campus.

- c) Maintain lab equipment. Failing equipment decreases the number of “setups” for experiments that can be conducted; this causes larger lab groups and decreased participation particularly among students in targeted groups who are likely to “hang back” and allow other students to take the lead (in a student group of 3 or 4 instead of 2)
- d) lab instruction is reduced as professors spend more time doing provisioning of equipment
- e) Our department has grown in enrollment, and each of these problems listed becomes even more problematic as our requests are ignored.

2. How does this position contribute to students' overall retention and persistence rates?

See #2 above

3. How does this request align with the program’s needs as detailed in the program review or CAS form?

One of the main objectives in the program review is to decrease the success rate gap between different racial and ethnic backgrounds. The success rate gap for Black and Latinx is 18% and 20% respectively. This is significant! Having the lab technician will definitely help to reduce this gap as noted in #1 above.

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.

Not that I am aware.

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

Currently the faculty members are doing extra work to maintain the labs:

- 1. The instructors are coming to lab class early or on the weekends to setup the equipment and make sure it operates properly.

2. Demonstration are also setup by faculty before class or weekends to have them prepared for the lecture or lab.
3. Lab class is shortened by having to setup the equipment during the lab class.
4. Student assistance has decreased during class significantly due to trouble-shooting equipment during class that is not working.
5. Faculty are doing equipment repairs outside of class.
6. Lab experiment setup have decreased from 15 to 8 and thus increasing the number of students from 2 to 5!
7. Faculty are ordering office supplies, lab equipment, parts.....
8. New lab equipment has been sitting in the stock room in boxes, unable to be used in the lab due to setup or calibration.
9. Not having a lab technician has resulted in the faculty doing the full duties that was required by the lab technician at the expense of their personal time and effort and also at the consequence of affecting the equity gap and success rate of disadvantaged, minority, social-economic students!
10. Not having a lab tech has also resulted in safety and health issues that can directly impact faculty and students:
  - a) Radioactive sources are not stored properly.
  - b) Electrical power equipment have bare wires.
  - c) Injuries have occurred when making repairs.
  - d) Chemicals, radioactive sources, glass, batteries are not disposed properly.
  - e) Tripping over equipment left on floor.
  - f) Carrying equipment to lecture rooms for demonstrations.
  - g) Equipment not secure/stored properly.
11. Faculty doing the lab tech duties most likely also violates classified/faculty duty union agreements.

6. Other information, if any.

If you have taken a lab course before, you know the importance of the lab component in the class curriculum. Without the lab component, the classes would not articulate to the 4-year schools. And in order to maintain an effective physics curriculum it is essential that we get a lab technician to provide our students with the best possible experimental lab experience. Quite simply, it is not feasible to have a lab curriculum without a lab technician. As a lab instructor in perhaps biology, physics..... how can you teach a lab course without the support of a lab technician? Does the chemistry department have a lab technician? Yes, 2 of them! Does the Biology department have a lab

technician? Does any physical or life science department have a lab technician?  
Yes, yes, and yes!