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COMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, December 28, 2023 9:29:03 AM
Last Modified: Thursday, December 28, 2023 9:37:04 AM
Time Spent: 00:08:00
IP Address: 75.25.163.251

Page 1: Classified Position Request Form

Q1

Please enter the following:

Department	Physics & Astronomy
Position Title	Science Lab Technician III - Physics & Astronomy
Salary Range*	\$4,633 - \$5,794 /month
Annual Salary at Step B*	\$58,000
Hours/week and # of months (e.g., 10-month, 11-month, 12-month)	40 hours/week, 12-month

Q2

Current program goal (as listed in comprehensive program review/annual update) this position will directly advance/support:

Previous Goals 1. Outreach - web updates, social media posts, K-12 visits, cool science demos at events in the region 3. Flexible Lecture Overhaul – Make high quality content available in multiple formats (online both -- synchronous and asynchronous, in-person, hyflex) 4. Hybrid Lab Restructure – Parallel, high-quality, hands-on labs both in person and online. New Goal 1. STEM 101 - First Year Experience Course Development

Q3

How will this position directly advance/support the goal listed above?

Previous Goals

1. Outreach – Someone to set up and organize demos, handouts, and educational kits to promote the program
3. Flexible Lecture Overhaul – This needs lab support since the lab tech also sets up and provides support on live lecture demonstration and now recording. This is particularly important as doing this while running a hyflex class is way too much work for one person (over half of our in-person courses are hyflex), but it is also nearly impossible to record demos without help. Currently we cannot do much of this as our only lab tech is busy and night shifted, and no one is here during lecture times.
4. Hybrid Lab Restructure – In order to build and support online labs with proper equipment and support we need more help. During the pandemic we put these labs online out of necessity but as we have developed them we have a better understanding of what it takes to run a quality online lab and currently we do not have the resources to meet our own standards. We are one of a very few colleges offering approved online physics labs because this is so hard, but it also means we draw enrollment from all over the state.

New Goal

1. STEM 101 – This course will be very hands on and demo heavy as well as during all times of day when we do not have support. We will need help.

Q4

Additional general fund position

What type of position is being requested?

Q5

Please attach the description for the position classification (job descriptions are posted on this GCCCD Human Resources webpage).

36%20-%20SCIENCE%20LAB%20TECHNICIAN%20III.docx (27KB)

Q6

What are the actual duties and responsibilities that are specific to this requested position that you would like to highlight to help the Classified Hiring Priorities Committee understand the need for this position?How does the lack of this position impact the program's or service area's ability to serve students?(300 words or less)

Time Coverage: Current limitations exist to lab hours based on the technician's schedule. Labs running outside these hours lack support, leading to potential equipment troubleshooting issues for faculty and students without help.

Expertise and Continuity: The breadth of subjects one technician must cover leads to a loss of institutional knowledge with turnover. It's challenging to find technicians with comprehensive expertise, resulting in a heavy reliance on faculty for research and knowledge.

Online Support: There's a desire to enhance online lab support with kits and resources, but the current staffing doesn't allow for the development of such materials or the organization of field trips.

Project-based learning support: one of the major pivots we have done as a department is switching out many exams and formulaic labs – anything that is easy to copy via AI or other internet services/previous students – with student-centered projects. While this works well, in order to do this equitably we have to provide students with a wide array of materials, some of which need to be procured, over the course of the semester. Lab techs source these materials and distribute them at times when students can get them. Currently we are beyond capacity on this.

Q7

* How are the duties of the requested position currently being performed, if at all?

We have minimal support for online labs. Faculty often have to tech their own labs without really knowing the equipment. We have not been offering in person Astronomy or earth science labs, because the equipment has not been used in several years and we had no lab tech at all for a while so no one maintained equipment and we have lost some of the labs and cannot find the inventory. A second lab tech, even part time, means we will have continuity of knowledge of where stuff is. We have begun limiting some of our projects, like our rocket, guitar, and some final lab projects, as we just do not have enough support to distribute the kits.

Q8

Respondent skipped this question

* OPTIONAL: If duties are being performed by a grant-funded position, when will the grant end?

Q9

Please describe how the program/department has changed over the past 3 to 5 years and how this position will help the department serve more students directly or indirectly?

We have massively changed our practices and increased our enrollment in the last 5 years. We now offer both online and in person labs to A LOT more students. This is highly specialized work we have been doing with almost no support putting a lot of strain on faculty. We are now one of the only colleges in the state still offering fully online, high quality, hands on physics labs and with POQR certification we can corner the market on enrollment bringing students in from all over the state/country.

Q10

* How has the demand for program/department services increased/changed over the past 3 to 5 years?

Demand: In physics (the bulk of our labs), we have essentially doubled our FTEF since Fall 2018, (from 55 FTES in Fa18 to 104 FTES in Sp23) while improving representation and reducing or eliminating equity gaps in our department. We added a class that has not been offered in well over a decade at Cuyamaca (Physics 110) which now has a waitlist. All our classes have labs, so we have doubled the students, more than doubled the unique lab offerings all without any increased support.

Q11

* How have workloads in the program/department increased/changed over the past 3 to 5 years?

Workloads: We share one low-skill tech with two other departments spanning at least 3 programs and 6 disciplines. Even if some magical person that had a skill set for all those areas existed, they would never apply for this job at the pay scale we have. The skill set issue is critical; without technicians who possess a background in physics or engineering, the faculty are forced to provide extensive additional support and training. This is not just a matter of efficiency but also of safety and quality assurance. The faculty, already tasked with their own workload, have had to fill in the gaps left by the absence of an appropriate lab technician, often without additional compensation and at the expense of their primary teaching responsibilities.

The consequences of not addressing this deficiency in support are multifaceted. The department has faced periods of being completely unstaffed, as seen during a sudden retirement related to COVID-19, leading to faculty members stepping in to cover the gap, again without extra compensation. This stopgap solution is not sustainable and has led to less than ideal outcomes, including a Title IX complaint.

The addition of a part-time Physics Lab Technician is a strategic necessity to meet the current demands of the department. This position will directly serve the growing student population by maintaining lab equipment, preparing experiments, and potentially providing in-lab support. Indirectly, it will enable faculty to dedicate their time and expertise to teaching and mentoring, rather than compensating for staffing shortages. The successful filling of this position is crucial not only for the immediate operational needs but also for the long-term sustainability and academic integrity of the department.

Q12

* How many more students will the position serve, and who will it serve?

Service area: This will allow us to properly support ALL our labs and students including the online ones, who are currently receiving much less service than in person.

Q13

Which of the College's strategic priorities will this position most directly support? Note: Selecting more than one strategic goal will not impact the Classified Hiring Priorities Committee rating of the position.

**Increase Equitable Access,
Eliminate Equity Gaps in Course Success,
Increase Hiring and Retention of Diverse Employees**

Q14

Please explain how the requested position will support the college strategic goal(s) identified above. (200 words or less)
Rubric Criterion 3

We have already done work on these items by redesigning our labs to be student-centered. If you look at our program review you will see we have already made substantial impacts on the first two goals: In physics, a subject with notoriously bad representation for students of color and women, we match the college demographics within 1% for black and Hispanic students this academic year and are getting close to parity on gender. That is a BIG DEAL. No one has numbers like that. Less than a decade ago we had 30% women and had 10% less Hispanic students than the college. But if that's not enough we also have reduced or eliminated equity gaps across the board for race and gender at the same time.

Students have responded to these changes by showing up in larger quantities. What we are asking for is to be supported in this work by receiving staffing that matches our growth and effort.

Additionally, without good lab support, we can really only hire and retain faculty of privilege who can afford to stay late or come early to do unpaid, highly technical work.

Q15

How will this position improve the student experience at Cuyamaca College? How will the program or service area measure the impact of this position on the student experience?(200 words or less)
Rubric Criterion 4

The numbers speak clearly: where there were once 4 standard lab setups across 6 unique courses with a total of 8 lab sections, our equity-based changes that have resulted in increased enrollment, better demographic representation, and decreased equity gaps mean that we now have 11-14 lab setups (5-7 in person lab setups and 6-7 online) for 7 unique courses and 14 lab sections. Many of these now require kits or supplies for lab projects that can vary by student and requiring coordination to pick up or ship. Currently, the department's infrastructure is stretched to its limits, which not only threatens the quality of education but also faculty workload and student success.

In terms of outcomes, a more robust support system will likely result in smoother lab operations, fewer equipment issues, and more innovative laboratory experiences for students. These improvements can be measured through a decrease in equipment downtime and repair costs, an increase in the number of labs run without technical issues, and positive shifts in student success and retention. This role is pivotal in ensuring that the department can continue to offer high-quality, practical science education to a growing student body

Q16

Please confirm that you have discussed this classified position request with your dean/manager and that you understand that deans/managers will be providing feedback about the division's priorities and needs to help inform and may impact the prioritization process.

Yes, I have discussed this position request with the Dean or Manager

Q17

In an effort for continued improvement of the Classified Position Request Process, the CHPC would like your feedback regarding the CHPC guidance and process for submitting new classified positions requests.

2023-24 Classified Position Request Form

The Engineering and Physical Sciences department contains three programs, five disciplines, a massive breadth of specialized, technical equipment and ONE lab tech (that technically does not even serve engineering) that is a Science Laboratory Tech II (out of a possible IV).

Massive enrollment growth due to more intensive student-centered practices, no commensurate support. For 30+ years we have had one lab tech. For context: 20 years ago, we had an engineering program with no labs and a very small physics and astronomy program meaning we needed support for 4-5 set-ups of simple labs across about 7 lab classes. We now have 2-3 times the enrollment, more of those classes have labs, and all the labs are different by class. Engineering has 4-6 lab set-ups, and physics and astronomy have 6 in person lab set-ups as well as support for 5 different online labs. Just math-ing the math here, we are now serving at least twice as many students and 3 times as many labs with the same level of support.

Physically impossible to be in two buildings at once. Labs in these classes happen at the same time, on opposite sides of the campus so even if we COULD manage with one tech they would need to teleport.

Even the position we have is the wrong one. Our current job descriptions are so outdated, and the level we have is so low we cannot get someone with the skillset we need, which is both frustrating and dangerous.

Pay issue: Our tech is listed as a Tech II, putting their salary at around \$52k. The average salary of anyone with a physics or engineering degree or even the skillset to understand and operate the equipment for Physics and Astronomy OR Engineering is well above that. Average salary for physics undergrad degree: \$62,150 annually in the US and in California the average salary skews slightly higher, average salary for engineering bachelor's degree even for an entry-level job is \$68,000 (again, this skews higher in California). This is all to explain why, even with heavy recruiting, we only received a dozen applicants over the last three rounds of hiring and only one had a physics degree (zero had engineering degrees). Grossmont, with a Tech III also had issue and had to go out three times before getting an actual physicist. Again, we don't need a physicist or an engineer per se, but we very much do need a particular skillset that has a huge overlap with those degrees and is therefore also highly valuable. Turnover issue: If we do get someone qualified, we can no longer expect that they will stay long-term, meaning since we only have one, faculty must be constantly training and retraining techs.

Skillset issue: Since 2 out of our last 3 techs have little experience in physics and engineering there must be a lot more support and training from the faculty. Physics and engineering majors can look at our labs and equipment and figure them out with minimal support as well as supporting faculty and students in a lab setting, however, even other STEM majors cannot do that.

Consequences: The one physics or engineering major we had in the position as a sub was a former student who was great with the lab design and equipment. We were completely unstaffed for several weeks after a sudden COVID-related retirement. The chair was doing the work (unpaid and haphazardly) and we had no one in the pool. After no help from HR, we had to recruit on social media. The person knew the work but almost immediately was the subject of a title 9 complaint against the recruiting faculty member. This is all to say that when we don't appropriately compensate work, people sometimes have other motivations that are less desirable.

Faculty pick up the slack, doing uncompensated labor with minimal quality assurance and safety training. Only having one tech means when one leaves we do not know what or where things are. Who must figure this out? Faculty. If we don't have coverage, who covers? Faculty. If the tech doesn't know how to set up a physics lab because they are a biologist, guess who teaches them? Faculty. Also, guess who gets paid less for the lab than lecture? Faculty.

Students pay the price. All these practices lead to labs that run less smoothly and have less innovation. Equipment gets broken or misplaced when there is not enough coverage for all the labs in all the places. Frustrated students do worse in classes and are less likely to succeed, return, transfer, etc. Less support means less project-based labs which means less equitable outcomes.

What we need is a reorganization where Engineering AND Physics/Astronomy/Earth Science each have one specialized lab tech (higher skill/pay), and one to three lower skill, full and/or time lab techs so we can cover all the times we have lab as well as the skills we need. At a bare minimum we would need one Science Lab Tech III or IV and one full time or two part time tech 2's that could circulate between the programs.

There is no way to really ask for that in the current process, so we end up submitting several positions from several program reviews which never get funded or hired anyway and then the faculty lab tech for free, burning out both our faculty and our expensive equipment that we don't have the time or skills to manage (ask Keenan how many hours a week he spends maintaining the 3D printers).