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Collector: Web Link 1 (Web Link)
Started: Sunday, December 18, 2022 1:14:30 PM
Last Modified: Sunday, December 18, 2022 1:16:18 PM
Time Spent: 00:01:48
IP Address: 75.25.163.251

Page 1: Full-Time Faculty Position Form

Q1

Please enter the following:

Department	Physics & Astronomy
Position Title	Physics & Astronomy Professor

Q2

1. Which program review goal(s) is this request supporting? Please state how the position will help advance the specific goal(s). Please explain how this position would support historically marginalized groups? (Rubric Criterion 3)(300 words or less)

Two of our program review goals will be strengthened and supported by a new physics and astronomy instructor. The first goal is providing increased flexibility for students with respect to the format and modalities of our course offerings. Since the pandemic we have added high-quality content in multiple formats including DE courses (both synchronous and asynchronous), hyflex, and in-person. Our pivot to more flexible course offerings has resulted in a serious burst of enrollment as we are now able to accommodate the lifestyles and schedules of a much more diverse cohort of students.

The second program review goal that would be furthered by an additional physics and astronomy hire is our plan to implement a hybrid lab model.

We are hopeful and encouraged that an additional physics/astronomy instructor will continue the strides we have made with respect to equity and improving the standing of historically marginalized groups in STEM. Through strategic and deliberate use of our last full time hire (four years ago), we have already seen this growth manifest in our enrollment, retention, and success data. In particular, we are very excited to celebrate that we have done something that often eludes STEM departments throughout the world—we have reached parity in terms of male/female enrollment (see Physics Gender Distribution graph). We believe that this wonderful development is the result of a major project undertaken by our last full time hire: Building a new curriculum for physics 130/131 that is student-centered and focused on making explicit the connections between physics and medicine, physical therapy, biology, and life science. This course rebuild has increased student buy-in and has made the coursework relevant and engaging for their context. We also believe that this project has resulted in much higher retention among female students who graduate from physics 130 to 131. Historically, female students have left STEM courses because of underrepresentation and poor instruction.

We are confident that if we are given one instructor per course series in Physics/Astronomy we can continue to make these equitable strides in our other courses and department as a whole.

Q3

2. Which strategic priority/priorities is this request supporting? Please state how the position will help advance the specific priority/priorities and the College's mission, vision and values. Note: the more goals addressed the stronger the request (Rubric Criterion 4) Increase equitable access (enrollment) Eliminate equity gaps in course success (passing grade in class) Increase persistence eliminate equity gaps (re-enrolling the subsequent semester or year) Increase completion and eliminate equity gaps (graduating with a degree/certificate, or transferring) Increase hiring and retention of diverse employees to reflect the students and communities we serve (300 words or less)

As stated in the answer and data above, we believe that having an additional instructor (i.e. one full time instructor dedicated to each major course series in Physics/Astronomy), will allow us to build on several equitable outcomes that serve Cuyamaca's strategic priorities. These include:

- Increasing equitable access through higher enrollment resulting from more flexible course offerings and modalities.
- Increasing outreach to high schools and other community colleges.
- Developing PHYC 110, PHSC 110, SCI 100 into high quality online gen ed and STEM exploration courses
- Reducing equity gaps in course success and retention.
- Providing focused support on intro/gateway courses
- Reducing equity gaps graduation and transfer
- Increasing hiring and retention of diverse employees to reflect the students and communities we serve.

Q4

3. How will this position improve student learning and achievement, and close equity gaps in access and outcomes in your program? What steps are you taking to close equity gaps in access and outcome, for example: (Rubric Criterion 2)- modify curriculum to reflect the college's diverse student population- close equity gaps- ensuring equitable access to courses that have pre-requisites- removing barriers for students, especially those from historically marginalized groups- adopt/create no cost/low cost textbooks and course materials(300 words or less)

There are several important ways in which we are confident this position will improve student success and retention. First, we intend to collaborate with our new hire to build on our recent curriculum successes and implement what we've learned from EMTLI, Humanizing STEM, POQR, and Strong Workforce. This growth will be in service of building more courses that are truly equity-based and student-centered. Between the initiatives mentioned and the SEED community of practice we built over the last three years, our department has learned a lot about how to build courses that are meaningful, relevant, and fair for all students. We are confident that this work will continue to reduce equity gaps and deepen the progress we have already seen in the last few years.

We also intend to collaborate with our new full time instructor to continue to adopt and build high-quality no-cost resources and course materials (as we did with physics 130/131) in order to provide equitable access to more students.

Finally, we have noticed that by providing these relevant, context-based curriculum in multiple flexible formats has created a word of mouth effect that has resulted in a boost in enrollment (see enrollment graph). This increase in enrollment is likely a sign that we have created a truly equitable course series that is being shared and talked about resulting in greater enrollment and access.

Q5

4. Has there been or is there evidence to demonstrate that there will be an increase in student demand for your programs and/or services? How are students being adversely impacted without this position? Please discuss supporting data from recent semesters. For example, enrollment trends, waitlist pressures, or wait time for appointments and support services, students served, etc. as they apply to this position. (Rubric Criterion 2)(300 words or less)

Noting the enrollment graph above, we have recently seen a steep increase in enrollment since the 2020 academic year (which was when we implemented our new equity-based models of physics 130/131. While enrollment suffered in general during the pandemic, we actually saw an increase in students interested in physics! This increase in demand has resulted in having to add 1-2 sections of 130 and 131 per semester. As you can see from this graph, the demand has continued to increase and has yet to plateau.

Q6

5. What are the racial and gender demographics of the faculty within your program? What steps will your program take to ensure this position will promote faculty diversity to reflect the students the college serves, for example: (Rubric Criterion 1)- Participating in professional development related to equity and diversity in hiring- Participating in professional development related to equal employment opportunity (EEO)- Completing EEO Representative Training- Employing strategies to recruit diverse applicants(300 words or less)

- Participating in professional development related to equity and diversity in hiring
- Participating in professional development related to equal employment opportunity (EEO)
- Completing EEO Representative Training
- Employing strategies to recruit diverse applicants

Q7

6. Describe why this position is essential to your program and/or service area. How has the lack of this position impacted your program and/or service area? What will be the impact to the program and/or service area if this position is not filled? (Rubric Criterion 1, 3)(300 words or less)

As mentioned above, there has been a surge in demand that is frankly difficult to keep staffed. Since we made the strategic effort to revamp our courses to be more flexible, equitable, and relevant, popularity has spread by word of mouth. Currently, the full time instructors in Physics/Astronomy both take on significant overloads. Furthermore, as shown above, the student demand resulting from our initiatives has yet to plateau! We foresee (and consider ourselves fortunate) that our investments have paid off to the point where we are experiencing a serious demand for another full time instructor.

Q8

7. Is this a new position, replacement for a retirement/upcoming retirement or replacement for internal promotion (faculty to administrator), or replacement for other circumstances? Please explain. (Rubric Criterion 3)(100 words or less)

This new-hire request is for a new position. Specifically, one that could be dedicated to running and re-building a single course series so that it is flexible, equitable, rigorous, and relevant to our students.

Q9

8. Please confirm that you have discussed this faculty position request with the Division Dean and that you understand that Division Deans will be providing feedback to help inform the prioritization process. Note: The Division Dean will be providing feedback to help inform the prioritization process

Yes, I have discussed this position request with the Chair of the Department

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Yes, I have discussed this position request with the Division Dean

Q10

If you would like to attach data to support your request in light of the rubric criteria, please upload a PDF, Word, or image file using the button below.

22-23-fhpc-requestform%20(Physics%20and%20Astronomy).docx (254KB)
