Foothill Annual Program Review 2024

Annual Program Review Template 2024

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1. Number of full-time faculty in the program.

3 (There is a 4th instructor, but teaches no physics load.)

2. Number of part-time faculty in the program.

7

3. Number of staff in the program.

1 (shared with both engineering and astronomy).

4. Do the above numbers reflect any staffing changes?

This year we have a new FT instructor, who replaced a retiree who had split load between physics and engineering. Also note that one of our FT has dropped to 60%, so the net gain in FT over the past two years is minimal at best.

5. Refer to the most recent Comprehensive Program Review, what were the identified actions for improvement? Identify any current and/or new Strategic Goals.

In our last Comprehensive, we noted that we resemble physics departments across the country; we severely under enroll women and people from Latinx and African-heritage communities. These represent issues in the physics culture at large; we propose that our best path forward is to move away from double-lab lectures. Most believe that the equity issues in physics can best be addressed by fostering a better sense of community for underserved populations, and the tools that make this possible do not work well in classes of 56 students (or 60+ when we take more students). Labs are an important part of developing an identity as a scientist, and moving to single-lab lectures would allow us to better blend lectures into a more inquiry-based format. We wish to change the seat count for our classes from 28 to 32 and offer more singles, but would need to hold 28 for double-lab lectures.

6. What actions identified in the Comprehensive Program Review (or most recent Annual Program Review if no Comprehensive Program Review) have you completed this year?

Our instructors have continued their commitment to equity-focused practices such as respecting pronouns, highlighting contributions from scientists from minoritized populations, being open about our field's historical and current struggles with gender and racial equity, and hiring Physics Show presenters who help disrupt stereotypes about who does physics. That being said, much of the low-hanging fruit has been exhausted (for example, to address financial barriers in our field, we started adoption of OER in F17, with a near-complete adoption by F18). What remains is the pivot away from double-lab lectures. This will be expensive for the college, but will allow us to serve our students in the best way possible.

7. Explain your implementation timeline and if there have been any changes or updates.

Our implementation timeline continues to be stymied by budgetary constraints. With the financial cliff that the college is facing, we find it unlikely that we'll have the opportunity to move from double-lab lecture sections that enroll more students, but don't allow us to serve them as well as we wish. There is the pressure to enroll as many students as possible, but to not increase the department's load. The department maintains very high productivity, beyond what should be expected of a lab-heavy discipline. When this change is made, it should be made across all lab-science departments, Neither Physics nor Chemistry nor Biology should be expected to teach large classes for no additional compensation (in essence teaching overloads for free). Note that when this happens we will need to add more load, and preferably another FT.

8. Explain the evidence the program used to evaluate progress and provide an update on progress.

As our central proposal is a change in the way that our classes are offered, a simple survey of the class schedule is the best evidence available. With the proposed cut to load last spring, the department did not offer any more single-load lectures than we have in the past. Once we have the opportunity to teach more single-lab lectures, both overall success rates and equity gaps could then be monitored for progress.

9. Click the link and follow the instructions to the Disproportionate Impact dataset, then respond to the prompt below.

https://foothilldeanza-my.sharepoint.com/:b:/g/personal/20078222_fhda_edu/ETXoAp44fMFCppHXvzpIFgcB5ogzcvUXLknHrIXo1ghkHg?e=H8axR7

Identify the groups that are experiencing a disproportionate impact in the most recent year (highlighted in orange). In the text box below, provide the percentage point gap and the number of additional successes needed to erase the percentage point gap for each group.

For non-instructional programs that do not have program specific disproportionate impact student data, please provide an update on the program's 13-55 project (i.e., project description, students served, implementation timeline).

There are two populations that are suffering from disproportionate impact. One is Latinx (22%, 32 students) and the other is Low Income (16%, 57). This is not a surprise, as those two populations have a strong correlation in Northern California public high schools. Those schools that serve poorer and more Latinx populations offer fewer physics offerings (Marasco&Barnett-Dreyfuss, 2020, https://doi.org/10.1119/10.0002741). This is not intended to frame the students in a deficit manner, but to recognize that they may have been underserved in their previous education, and need stronger support.

10. Use this opportunity to reflect on your responses in this document. Include your closing thoughts.

The department would like to recognize Admin's unraveling of an inequitable partnership with a dual-enrollment school. We were in effect subsidizing the education for students from economically-privileged families, and due to seat count restrictions, actually offering them better opportunities than our own native students.

We would also like to thank IR, who disaggregated our Asian student data. Surprisingly, over the past five years (2018-23) our South East Asian students have defied expectations, and not had a meaningful achievement gap. Asians overall had a success rate of 75% whereas South East Asians had a success rate of 69%, which compares favorably to similar benchmark groups such as Fillipinix (61%) and Pacific Islanders (63%).

The Physics Show has not only recovered from the impacts of the COVID pandemic, but has grown in terms of people served. We are grateful that the District recognized our efforts in the form of an award from the League of Innovation.

The department maintains a voice in conversations at the national level, representing TYCs in many places.

As a department we will continue to strive for the success of all of our students. However, we continue to believe that the best path forward to closing equity gaps is to adopt single-lab lectures as often as possible, and to give our students the time and attention that they truly need.

Click on the link below to view the Annual Program Review Rubric.

https://foothilldeanza-my.sharepoint.com/:w:/g/personal/20078222_fhda_edu/Ec2dqPH1B2RHinzFtnIz6sYB7-DOzW9lv1KkGyWdLuZkbg?e=CIfFMU

End of Annual Program Review Template 2024

This form is completed and ready for acceptance.

Rubric Annual Program Review

Criteria

The program's responses...

- align with the program’s goals
- align with data
- are informed by data
- are within the control of the program
- have measurable outcomes

- [x] Meets Expectations
- [ ] Needs Improvement

Feedback

The Physics Department has shown time and time again their commitment to students success, community building, and dedication to closing achievement gaps across demographics. With the construction happening at Smithwick the past year, the Physics Show was put on hold, but is now back in full swing this current December '24 and January '25. I'm was really happy to see all of the kids back on campus during this past finals week in fall '24. This event has shown to be one of the more impactful and innovative community outreach demonstrations in the country, and the effort to bus kids from Title I schools at zero cost to observe the event should serve as the definition of equity.

We hired one new full-timer who just started this past fall '24 quarter, and that helps to fill the gap of one full-timer having been on article 19 at reduced load, and another full-timer that is on article 18 at reduced load.

Physics enrollment continues to be strong, and students often reach out requesting more sections, which we just don't have capacity for at this time.

As is pointed out in the program review, the department has implemented many efforts to lowering achievement gaps such as complete OER implementation, the Physics Show outreach, and a general understanding across the department of what active learning means in both physics course lectures and labs. The request to start offering more single labs vs double lab sections is well noted, and I wouldn't have any doubt that by having more single sections and lowering the number of double sections would help in increasing student success. It is widely known that the proportion of teacher to student numbers greatly affects the community felt in the classroom and increases success, in general. This is not unique to the physics department and is relevant for all lab courses in our lab sciences in the STEM division.

This form is completed and ready for acceptance.