

Dean's Summary, 2021-2022

Physical Sciences, Mathematics, and Engineering

Prepared by Mehrdad Khosravi



Physical Sciences, Mathematics, and Engineering division covers seven departments of astronomy, chemistry, engineering, geology, mathematics, meteorology, and physics. Most our courses attract students for both major courses or popular general education ones. During the pandemic years we did have a challenge of going online but now we are working on going back to in person mode. Our division enrollment has a 5-year drop of 12% which is less than 5% over that of De Anza as a whole.

Our Strengths:

As we go in person, the idea is to continue our focus on equity. In our new hirings, equity has been the focus. Search committees looked in particular for equity minded faculty. Math department's MPS program continues to lead the equity path both for the department and as a model to follow by other departments and Foothill which has started their own MPS program. The MPS model has moved to transferable courses with focus on supporting our targeted population through their early transferable mathematics courses.

Areas for Improvement:

Bridging the equity gap is an ongoing effort of the division. At 66% success for the population of Black, Latinx, and Filipinx students, PSME division falls 5% below campus success for similar population. Although there has been a steady increase in success, we set the goal to reach and exceed the percent success for De Anza. With most our courses being University of California transferrable and both major and general education courses in that mix, success of students in the courses we offer could paint a clear transfer path for students.

Enrollment continued to be a challenge although, as mentioned, just slightly a bigger drop than De Anza as a whole. To go back in person slowly has tested the scheduling practice and made previous trends which have always been used in schedule planning have less relevance as the modalities are not the same. With only a handful of our classes being online before pandemic, the first year of remote teaching did increase the enrollment going from about 27000 to 28000, but in this second year of teaching mostly online, we went down to about 23000 which is the biggest loss percent in the past 5 years.

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Our Needs:

Thanks to Instructional Equipment dollars, we were able to purchase and upgrade equipment for our labs and classrooms. That said, in many cases the new equipment require training and maintenance which creates and reinforces the need for trained technicians. In particular, physics department is in desperate need of a stockroom(lab) technician to test and fix the old equipment and help faculty set up and use the new pieces very expensive technology they have purchased. The safety and security of these labs require a full time technician who staffs the labs.

Our faculty need surpasses all other needs. During pandemic years, mathematics department was approved and hired four positions. Two of the new hires resigned after we came back on campus. In addition to those positions, we lost two other faculty in math to retirement. Our MPS program in particular was hit hard by losing one of the new hires who was dedicated to teach for MPS and also program's long time tenured counselor who was instrumental to the grow of the program and serving the population of students. The department as a whole is losing longtime faculty who commonly taught Statistics. Statistics is one of the most common courses which many students take to meet their transferable math requirement.

We also have a need of one position in each of our Physics and Chemistry departments. The main reason is to support our growing population of students in our science courses. Additionally, our full-time faculty in the two departments speak of hesitation in taking Professional Development leave as they feel the department needs their contribution. Having an additional tenured faculty in each of the departments will allow their faculty take the well needed growth leave. It is also worth mentioning that some of our faculty in our math and chemistry departments play a big role on campus as part of the shared governance leadership which redirects some of their work from teaching to other responsibilities on campus. This reaffirms the need for the requested new hires.

In Conclusion:

Our division is going strong as we come back on campus. To keep our faculty doing what they do in support of our students and campus as a whole, we are in desperate need of a lab technician position for our physics lab, five replacement positions for mathematics and one growth position in each of physics and chemistry departments. The maintenance and growth of PSME departments will help the growth of our campus which will help enrollment in all other departments and also plays a big role in transfer rate of our students. Additionally we need the faculty position so our departments can work actively in writing more degrees and certificates in different programs.