

Annual Questions

A - Mission

Has your program mission or primary function changed in the last year?

No.

B - Program changes

Were there any noteworthy changes to the program over the past year? Include new courses, certificates, degrees, articulation agreements, etc...

This year we redesigned the support courses for our entry level math classes. Our in-person review model was not effective for our target audience. We found that students who elected to take the support that were high achieving students gained from the support, but it did not significantly increase the success of our lower students and students that had previously failed the class who were our target audience. We observed that students felt that simply by coming to class, they believed they were doing the necessary work to be successful. They were not, however, accessing the resources provided them and putting in effort towards their success. We discussed ways we could encourage students to be the drivers in their own learning and not have a false sense of success simply by showing up. One way we have made this change is by shifting our support classes to DL. This change in modality takes away the sense of working towards success simply by sitting in a classroom. We require students to meet their instructor in person to tailor support to their specific needs and make sure they have a face to face relationship with their instructor. We also require students to meet with their counselor, get training in time management and study skills as well as spend a specified amount of time in the math or tutoring center in an effort to create learning communities with their peers while receiving help from people trained in their specific math class.

Another change has been the state mandate that all STEM students begin in Calculus regardless of their preparation for this class. In order to prepare students for the rigor of Calculus we have designed a Calculus and Calculus support class that are linked with a target population of students with below a 2.5 GPA and/or those who have not taken the prerequisites for Calculus or failed Calculus in the past. These classes will be running as pilots this Spring. The support class will be in person and will consist of prerequisite material needed to be successful in Calculus.

Lastly, we have started offering concurrent enrollment courses at Orcutt Academy and Pioneer Valley High School. Courses offered are Statistics, Trigonometry and College Algebra. The department is in contact with

instructors and we have appointed leads to check in, aid and review the courses. We will discuss the outcome and progression of this program during the fall retreat.

C - Two-year program mapping

Is your two-year program map in place and were there any challenges maintaining the planned schedule?

Yes it is and no there were not any challenges.

D - Staffing changes

Were there any staffing changes?

No staffing changes.

E - Program Successes

What were your program successes in the last year?

Successes:

Math Center availability increased

Department complied with AB 705 regulations and began progress on AB 1705

Support courses for students entering into selected 100-level math courses were redesigned to be more effective

Student use of Math Center increased

We offered and attempted to offer more cohort classes (some of them did not fill and were canceled)

Increase of OER use across department

Increase of support resources - embedded tutors, counseling seminars, Math Center, ARC

Participation in outreach events - career fair and Hancock Hello

Concurrent enrollment classes at Orcutt Academy and Pioneer Valley High School

F - SLOs

1. Please summarize key results from this cycle's assessment.
2. Please summarize your reflections, analysis, and interpretation of the learning outcome assessment and data.
3. Please summarize recommendations and/or accolades that were made within the program/department.
4. Please review and attach any changes to planning documentation, including PLO rubrics, associations, and cycles planning.

1. Overall results show a low outcome on SLO data. Most classes had negative numbers in class outcomes

2. We believe these results are a direct result of AB 705 in its placement of students in classes for which they are unprepared. Students may be passing a class, but their understanding of these classes is not what it should be.

3. 181 Support classes, continued analysis and improvement of support classes as well as recommendations for placement continue in the department.

4. We have decided to simplify questions so they are faster for students to complete and do not take up such a large part of final exams. We are also allowing instructors to write their own similar questions with approval of other faculty to create cohesiveness in language and question framing. These changes to questions will be made by course leads and approved by the department.

G - Distance Education

1. Which courses were reviewed for regular and substantive interactions (RSI)?
2. What were some key findings regarding RSI?
 - a. Some strengths:
 - b. Some areas of possible improvement:
3. What is the plan for improvement?

1. We had several faculty trained in DE course review this year but have not yet implemented a review process. We are waiting for the academic senate to provide guidance for this process

2. We have discussed RSI and continue to innovate new ways of engaging our students. More will be discussed on this topic when a review process is implemented.

3. We will continue to encourage faculty to get trained in the review process and wait for the academic senate's recommendations.

H - CTE two-year review of labor market data and pre-requisite review

1. Does the program meet documented labor market demand?
2. How does the program address needs that are not met by similar programs?
3. Does the employment, completion, and success data of students indicate program effectiveness and vitality? Please, explain.
4. Has the program met the Title 5 requirements to review course prerequisites and advisories within the prescribed cycle of every 2 years for CTE programs and every 5 years for all others?
5. Have the recommendations from the previous report been addressed?

N/A

I - Validation

Validation for Program Planning Process:

1. Who have you identified to validate your findings? (Could include Guided Pathway Success Teams, Advisory Committee Members, related faculty, industry partners or higher education partners)
2. Are there specific recommendations regarding the core topic responses from the validation team?

We did not have a validation team this year. We will pursue that in the coming years.

Higher Education and Industry Partners

A - Suggested Data

What data were analyzed and what were the main conclusions? Articulation /partnerships

The creation of our 181 support class was a large focus this year in an effort to increase students achieving transfer status to universities. The creation of these sections and support material was completed and measurements at the conclusion of the spring semester will include pass rates for 181S vs. pass rates for 181 without support. We would also like to follow the students placed in 181S and track their success in 182 and 183/184 as well as their persistence rates. This will take several semesters to report out.

We will also be analyzing the data collected from our concurrent enrollment pilot and discussing the development of our partnership with Orcutt Academy and Pioneer Valley as well as extending our partnership to other schools in the community.

B - Challenges

Looking through a lens of equity, what do you perceive as a challenge with student success or access in your area of focus?

A huge challenge is students are entering their math classes extremely unprepared. Pass rates do not reflect student understanding and with AB 705 and I705 we are seeing a decrease in student understanding of math and more students just mimicking processes in the classroom. This challenge will really undermine the strength of our program in years to come. It also does a disservice to our students as they will not be successful STEM students at the university level. Our most at risk students are suffering the most. Students who can afford private tutors are able to leverage the mandates to their advantage but our lower income and first generation students are not choosing STEM and/or dropping our classes.

We have difficulty getting the correct students in the correct classes. Currently there are only nine people in our I81 support that meet the qualifications. All the other students should be enrolled in a regular I81 class.

Loss of BibliU was a challenge for those of us who are trying to provide low cost classes.

Our facilities are a challenge. They leak, they are not well ventilated, they are not big enough to do group work effectively, the wifi does not work in the M-400 building, the W building and the math lab. Some of our faculty run entirely digital classes and are completely unable to function in these classes. Requests have been made over and over and the problem has not been addressed.

AB 705 and I705 has our faculty stretched thin. We are creating new classes, new material, trying to meet the demands of the state and teaching classes filled with students that don't understand prerequisite material. Morale is low.

C - Innovation

Looking through a lens of access, equity and student success, what are your plans for innovation in this area?

We have plans to move towards using alternate calculation tools like Stat Crunch that are more in line with industry standards.

We would like to integrate more laptops and Chromebooks into our classrooms. We would like to have more access and training for our students that would transfer to use of technology in industry.

We would like to have a second classroom/computer lab set up that the math department could use for classes.

We are working on creating a support class/Learning community for Math 181.

Our early start opportunities/workshops were very successful and would like to create more of those.

We hope to expand our concurrent enrollment opportunities to include other schools in the area.

D - Measurements

How will you measure the results of your plan? How will you know you have been successful?

We will measure our success by measuring pass rates for 181S vs. pass rates for 181 without support. We would also like to follow the students placed in 181S and track their success in 182 and 183/184 as well as their persistence rates. This will take several semesters to report out. We will hear reports from instructors using Stat Crunch at the end of the semester as well as discussing success operating stats in the computer lab. We will have continued monitoring of bootcamps and measuring students' success in subsequent classes.

E - Resources

What resources are needed for your program this year? E.g. Facilities, Equipment, Staffing, Technology, Other

Resource: Class registration software

Priority Level: High

Resource Type: Technology

Quantity: 1

Per Item Price: To be determined

Description: We need a class registration system that will restrict students from registering from classes they are overqualified for. We are out of compliance with AB 1705 because we have students registering for classes they have already completed. We also need a system that can place students based on reported classes taken in high school and GPA. We need the ability to populate our 181 Support classes with our target students and only our target students. Right now we have students who do not need support taking seats in the class that is designed for students that are underprepared for our classes

Resource: Expansion of Math Center

Priority Level: High

Resource Type: Facilities

Quantity: 1

Per Item Price: \$300 per square foot

Description: We need more space for the Math Center. Our students are using this space and we are outgrowing it. We need more study rooms in the math lab where groups can meet and close the door so they are not disturbing the rest of the lab.

Resource: Expanded and updated classroom space

Priority Level: Medium

Resource Type: Facilities

Quantity: Multiple

Per Item Price: \$300 per square foot

Description: We need more contemporary math buildings with more seating and room for groups and better ventilation. Rooms are hot and stuffy and not conducive to learning. Many classrooms are so small that group work is difficult. We need more space to be able to move desks so students can collaborate. We have offices that leak that need to be repaired at the least but replaced ideally.

Resource: Whiteboards in classrooms

Priority Level: Medium

Resource Type: Equipment

Quantity: 10

Per Item Price: \$250 each

Description: We need more whiteboards in designated math classrooms. We would like bulletin boards taken down and white boards to replace so students have places to do group work around the room.

Resource: More classrooms

Priority Level: Low

Resource Type: Facilities

Quantity: 3

Per Item Price: \$300 per square foot

Description: We need more classrooms available for use.

Resource: Better WiFi in M and W buildings

Priority Level: High

Resource Type: Technology

Quantity: Signal for two buildings

Per Item Price: \$250

Description: We need better wifi in the M and W buildings and Math Center. Teaching is severely inhibited by the lack of access to the internet and correct technology for our faculty needs.

Resource: Computer lab dedicated for math

Priority Level: Medium

Resource Type: Technology/Facilities

Quantity: 1

Per Item Price: \$4700 for 36 computers/ \$300/square foot construction

Description: We need a dedicated computer lab for math classes. More instructors are wanting to integrate technology into their teaching and we need more space to make that happen.

Resource: Update tech in smart podiums

Priority Level: High

Resource Type: Technology

Quantity: 8

Per Item Price: \$100

Description: Update tech in smart podiums. Some rooms are not compatible with Apple products. We would like all types of computers and tablets to use the sound, projector and podium. Math has very different tech needs than other subjects. We would like to give input into how projectors, whiteboards and computers are set up in our classrooms.

Resource: Class set of laptops

Priority Level: Low

Resource Type: Technology

Quantity: 36

Per Item Price: \$130 each

Description: We need students to have access to technology in the classrooms. Laptops available for class use are needed

Resource: Full time Instructional Assistant

Priority Level: High

Resource Type: Staff

Quantity: 1

Per Item Price: TBD

Description: We have a part time instructional assistant, and we need to move that part time assistant to full time.

Program Review Signature Page:

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Jeffrey M. Appel (Jun 27, 2024 13:23 PDT)

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Laurene Lee (Jun 27, 2024 15:45 PDT)

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Date











Mathematics Education and Industry Partnership 2023-24








Final Audit Report

2024-07-22

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