

# 2021-2022 Program Review



## CAN Program Review (Instructional) - Mathematics (Fall 2021)

### STEP 1: Program Review Narratives

*2021-2022*

#### **Instructional Program Review (IPR)**

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**Writing Team:** Evan Innerst, Michael Hoffman, Ray Lapuz, Po Tong, Sumathi Shankar

#### **Program Context**

**1. Mission:** Mission statement:

The mission of the Cañada Mathematics department is to provide a foundation for a liberal arts education and for the study of the sciences. This is accomplished by providing students with a broad range of courses designed to develop basic skills in computation and quantitative reasoning, to meet the transfer requirements for colleges and universities, and to meet the needs of occupational training programs.

**2. Articulation:** No known changes

**3. Community & Labor Needs:** The Covid-19 pandemic has changed how our students are educated. Our students are now getting more used to fully online asynchronous learning, synchronous online learning, or a combination of both. The schedule flexibility of fully online asynchronous learning allows our students to juggle between work and school more readily. However, some of our students prefer synchronous interaction (both online and face-to-face). As our college re-opens, many students (having a taste of the various modalities) will demand flexibility and choices of teaching modalities). This calls for multiple sessions of the same course with different modalities. As a small college, many of our math classes have only one section per semester (Math 110, Math 120, Math 243, Math 253, Math 270, Math 275). The HyFlex model solves the problem by providing options within the same section. There is a general community need for providing more HyFlex classes. First of all, this requires well equipped HyFlex classrooms. Such a classroom will need to have video cameras following the instructor as he/she moves around. It will also likely require additional personnel (may be an EPIC tutor) to be in class to monitor the online interactions. Assuming the availability of well equipped classroom and personnel, we should experiment with the HyFlex model to see how we can make it successful.

In accordance with AB705, we have implemented multiple just-in-time co-requisite support classes: Math 800 in support of Math 200, Math 825 in support of Math 225, Math 841 in support of Math 241.

Driven by the requirement of offer distance education during the pandemic and thereafter, we have added Distance Education Addendum to all active math classes that did not previously have such addendum into CurricuNet. This ensures we have the flexibility of offering various modes of delivery in the future for all our classes.

#### **Looking Back**

**4. Curricular Changes:** The major changes in our curriculum offerings have come mainly as a result of implementation of the AB 705 requirements. We have co-requisites in place for under prepared students enrolling in transfer level classes. We have already removed Math 811, Math 110, Math 120, and Math 190 as prerequisites for the transfer level classes. We have stopped offering Math 811 altogether. We have also not offered Math 190 for the past two semesters. However we still offer one section each of Math 110 and Math 120 in the online modality as an option for students who wish to take them. We have started offering more sections of Math 200 and Math 225. We see more students willing to take transfer level courses with support now that there are no prerequisites for Math 200 and Math 225.

With COVID19 we had to move all classes to either completely online or synchronous with zoom meetings. Both adjunct and fulltime faculty not already trained for teaching online completed the required training (QOTL1) during the past year. This has certainly helped improve the quality of instruction with better organization of Canvas course shells and faculty exploring new ways to make their classes more engaging to facilitate deeper understanding of concepts for students.

**5A. Progress Report - IPC Feedback:** 3. The nature of the program is that we meet community and labor needs indirectly through the programs we support. There are no licensing or accreditation needs for the department.

7. We included a more detailed description of data trends in this narrative.

9. We have updated our 3-year plan to include the co-requisite courses required by AB705. We have fallen behind the schedule over the past year but a plan is in place to catch up with our assessments.

10. PLO assessment continues to be an issue that we need to address.

**5B. Progress Report - Prior Program Goals:** GOAL #1: Develop for the co-requisite courses for transferable courses to comply with AB705.

We have made strides in developing the co-requisite courses: Math 800, 825, and 841. We worked with the other two colleges in our district to design these courses. This goal has been met.

GOAL #2: Continue to develop and institutionalize the Community of Practice model.

Since COVID pandemic, we had to put a pause on the development of our Faculty Learning Program (FLP). In the summer of 2021, Ray Lapuz participated in a Racial Equity in Mathematics Leadership Institute (REMLI). He and other math instructors in the other two colleges will plan to develop an FLP-type program and professional development opportunity for faculty across the district. We will continue to work on this goal.

GOAL #3: Examine and redevelop the curriculum for Math Jam.

The math curriculum for Math Jam has been streamlined and over the COVID pandemic, we began to offer online components: synchronous and asynchronous. We are now aligning the program with guided pathways and continuing to get good attendance. We may cut the offerings from three times a year to twice a year: August (before the fall semester) and January (before the spring semester). This goal has been met.

**6A. Impact of Resource Applications:** N/A

**6B. Impact of Staffing Changes:** Richard Follansbee retired at the end of Spring 2020 and his position has not been filled yet. We are in the process of hiring a full time Math Faculty who will start in the new position from Fall 2022.

### **Current State of the Program**

**7A. Enrollment Trends:** The unduplicated headcount for the Mathematics department had increased 6% in 2020-2021 from a low of 2,393 students in 19-20. This is a rebound after a steady decline from 2015-2016. The department hopes to build on this rebound by offering more flexible options for taking courses in our department.

FTES isn't available for 2020-2021, but we expect a more significant increase in FTES with the rise in enrollments in co-requisite support courses and other high contact experiences. The rise in FTES should also be continued with more flexible offerings for students in the future.

Load for 2020-2021 is also not available in data packets, but load had increased after the implementation of AB705 and is expected to stay steady around 556 that was recorded in 2019-2020.

**7B. Significant Changes in Your Program:** As with most departments, Mathematics had to shift to distance education in 2020-2021 quickly. This shift coincided with an increase in student enrollment that was significant. It is difficult to interpret, with the unique nature of a global pandemic, why enrollments increased. The shock to many industries indeed had an effect since Community College enrollment tends to be counter to employment trends. Also, having more remote offerings may have been a factor, though we need to be careful drawing too many conclusions from such a unique event.

**7C. Planning for Your Program:** Post pandemic, the mathematics department is more prepared to offer more remote offerings. (with DE addenda included for all and most FT faculty trained to teach this modality) Being agile in what will honestly be an uncertain environment will be essential.

**8A. Access & Completion:** Course success and retention levels have remained remarkably stable since 2016-2107 (around 67%). This has remained throughout the AB705 transition. Maintaining such high success and retention rates, while shortening the pathway has increased the throughput (PRIE packets do not contain the information required to compute this number). This increased throughput means more students achieving their goals.

There is still room for improvement in our co-requisite courses, and programs like FLP and our Community of Practice have given us faculty development opportunities that should help us improve on these excellent results.

A potential modification of the support courses that we have been considering is the addition of an epic tutor for each class. This would require identifying more peer tutors or professional tutors.

**8B. Student Equity:** Currently, there are course success deficits for both the African American and Latinx communities.

For African American students, we had gotten close to closing the success/retention gap in 2019-2020 (63% course success versus 67% for the general student body) but has receded to 51% in 2020-2021. Though not measured in the data, we may see a disproportionate impact from the global pandemic on this community, including potential adverse side effects of shifting all courses online. With the return to in-person instruction, there could be a return to prior successes.

Latinx students also took a step back in 2021, though not as much as African American students. This community had fallen from a 58% success rate in 2019-2020 down to 55% in 2020-2021. We also hope to see improvement with the return to in-person instruction in Spring 2021.

We have found that many students have taken English 105 along with Math 200/800. This combination of classes puts too much pressure on the students and they seem to struggle to balance both classes. We will meet with counseling to suggest that students take English 105 in their first semester and then Math 200/800 in the second semester.

To be compliant with AB705 we need to meet with the counselors to be sure that only students who need math 110 or math 120 for a particular certificate or degree enroll in those classes. We will need to research which programs currently have math 120 as a requirement.

**8C. Completion - Success Online:** When we look at all of our classes together success and retention rates are about 10% higher for classes that are not online over classes that are online, but when we compare the specific classes we teach online and their traditional counterparts the success and retention rates are the same.

In general, we continue to try and improve retention and success rates for all of our classes by getting students placed appropriately and providing support both before (Math Jam) and during the semester (tutoring).

**9A. SLO Assessment - Compliance:** We have recently added 3 new classes in response to AB705 and have added SLO's for those classes to Improve. In addition we created an updated 3 year plan with those three classes included. Last year we fell behind on our assessments but we plan to catch up this year. In the 3 year plan the math department has 21 classes and we assess 3 or 4 each semester.

**9B. SLO Assessment - Impact:** Math 200, 225, and 241 were identified as three entry points into transfer level math and we created companion courses for them to meet the requirements of AB705. SLO assessment has impacted the objectives for the companion courses Math 800, 825, and 841.

**10. PLO Assessment:** We did not assess the PLO's last year. As with the SLO's we will catch up the assessments of PLO's this year.

There has been some discussion that we need to rework our PLO's both in substance of them and how we measure them. Currently our PLO's are measured by items on tests or the final exam and cover the common themes of problem solving and graphing.

**Program Review Narrative Status:** Complete

## Goal Description: Community of Practice

Continue to develop and institutionalize the Community of Practice model.

**Goal Status:** 2 - Continuing (PR)

**Relevant Program Review Cycle:** 2020-2021

**Estimated Start Date:** 08/06/2018

**Estimated Completion Date:** 01/06/2020

**Who's Responsible for this Goal?:**

**Please select the college goals with which your program goal aligns.:** Student Completion/Success - Provide educational and student services programs that highlight inclusivity diversity and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success.

**Please select the college strategic initiatives with which your program goal aligns.:**

### Action Plans

**2018-2019** - Implement the Faculty Learning Program at Cañada. (Active)

**Who's Responsible for Completing this Action Plan?:** Ray Lapuz, Michael Hoffman

**Estimated Completion Date:** The first cohort will finish by the end of Spring 2019

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2019-2020 - Redesign the program to transfer to CIETL. (Active)

**Who's Responsible for Completing this Action Plan?:** Ray Lapuz

**Estimated Completion Date:** The first Community of Practice cohort hosted by CIETL could begin in Fall 2019 or Spring 2020.

## Goal Description: Optimize Support Courses

Now that the support courses have been created, we can begin to optimize these courses.

Work with other departments (especially English) to schedule classes that won't conflict with ENGL 105

**Goal Status:** 1 - New (PR)

**Relevant Program Review Cycle:** 2022-2023

**Estimated Start Date:** 01/10/2022

**Estimated Completion Date:** 01/16/2023

**Who's Responsible for this Goal?:** Those who teach these support classes

**Please select the college goals with which your program goal aligns.:** Student Completion/Success - Provide educational and student services programs that highlight inclusivity, diversity, and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success.

**Please select the college strategic initiatives with which your program goal aligns.:** Develop Clear Pathways, Improve Student Completion, Implement Guided Pathways, Promote a Climate of Inclusivity

## Goal Description: Compliance with AB705

Collect Data to find baseline completion rates and throughput rates.

Start a process for measuring success

**Goal Status:** 1 - New (PR)

**Relevant Program Review Cycle:** 2022-2023

**Estimated Start Date:** 01/10/2022

**Estimated Completion Date:** 12/17/2023

**Who's Responsible for this Goal?:** Those who teach these courses

**Please select the college goals with which your program goal aligns.:** Student Completion/Success - Provide educational and student services programs that highlight inclusivity, diversity, and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success.

**Please select the college strategic initiatives with which your program goal aligns.:** Improve Student Completion, Implement Guided Pathways

## Goal Description: Establish Metrics to Assess Different Modalities

Concrete attempt to measure the efficacy of the different modalities.

Use results to drive department planning

**Goal Status:** 1 - New (PR)

**Relevant Program Review Cycle:** 2022-2023

**Estimated Start Date:** 01/10/2022

**Estimated Completion Date:** 12/17/2023

**Who's Responsible for this Goal?:** Everyone

**Please select the college goals with which your program goal aligns.:** Student Completion/Success - Provide educational and student services programs that highlight inclusivity, diversity, and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success., Organizational Development - Focus institutional resources on the structures, processes, and practices that invest in a diverse student population and prioritize and promote equitable, inclusive, and transformative learning.

**Please select the college strategic initiatives with which your program goal aligns.:** Develop Clear Pathways, Improve Student Completion, Implement Guided Pathways, Create Process for Innovation, Promote a Climate of Inclusivity