Cañada College

NEW FACULTY POSITION PROPOSAL

Click in the shaded fields and start typing your response.

DISCIPLINE: MATHEMATICS: TWO FULLTIME POSITIONS

A. How does the proposed position align with specific objectives within the college's strategic plans and initiatives? http://www.canadacollege.edu/plans/index.php

We request two new full-time Math faculty to start in Fall 2020. This would allow the math department to continue its contributions to the colege in the following priority areas:

Clear pathways for students and AB 705 Compliance:
We have worked hard to provide clear pathways for students. We have currently developed both a STEM and non-STEM pathway through our entry-level courses that will serve to increase the rate at which students achieve their educational goals. These two initiatives initially included Math 190 a pre statistics course, and Math 225 a Pathway to Calculus course. Each of these significantly reduces the number of units required to achieve transfer or AA degrees while they provide instruction in a coherent set of competencies that lay a foundation within each pathway. To comply with AB 705 and further improve throughput of students we have developed Co-Requisite courses (in place of the remedial courses) coded as 825 and 800 respectively to support students who benefit from review of pre-requisite skills.

As these courses scale up, we are in need of more fulltime faculty to develop and refine our implementation of this curriculum. The predominance of Part-Time faculty in these teaching roles makes it diffucult to provide a coherent, research-based implementation of methods that both challenge, humanize and integrate students into the campus community.

Infrastructure for faculty development.
We have built an infrastructure to train and support incoming faculty in implementing learner-centered teaching practices. The Statistics community of practice consists of regular meeting where common curricular resources are developed and refined, alongside a routine of classroom observations designed to provide deeper insights into student learning. Just last semester, we were able to successfully bring three new instructors to teach pre statistics with minimal outside training. A newly hired adjunct instructor said, when speaking about our community of practice, "Because of the Stats team I felt confident about teaching this course. The collaboration in ideas, how to teach with mostly group work, and hearing about how the other teachers handled projects, tests, and activities were instrumental to the success of my class."

Mathematics faculty campus leadership.
Math Faculty also continue to serve as leaders in providing professional development opportunities for the college. Ray Lapuz and Michael Hoffman launched the Cañada Faculty Learning Program. The program was co-facilitated by math faculty Sumathi Shankar, David Monnarres. The program has been scaled beyond our division and is now in its 2nd iteration involving non-STEM faculty.

"College Goal 2. Completion. Commit to student completion of certificates, degrees, and transfer; and create pathways which support the success, retention and persistence of students in their educational goals."

Our department has made significant progress toward improving the percentage of students who complete the remedial sequence and are thus able to enter and complete transferable/degree-applicable mathematics courses. In particular, the intentional growth of our Pre-Statistics (Math 190) program has increased the remedial-sequence completion rate of students placed two-levels below transfer from only 5% reaching Statistics, to 40% reaching statistics. These students also pass Statistics at a higher rate (65%) than their peers who do not take Pre-Statistics (55%).

Co-requisite models.
We have begun to implement several strategies that we know could further improve these outcomes, including a 'co-requisite model' where students are placed directly into transferable classes with a co-requisite support course. Barriers to implementation and scaling include the prevalence of part-time teaching at the Statistics level.

STEM Pathway. We have a parallel acceleration program within the STEM pathway - Math 225 - which has increased access to Calculus (Math 251) by integrating trigonometry into an intensive pre-calculus class which also integrates contextualized (What is being contexualized? applications/learning) . Math 225 is being developed as the foundation of a STEM Meta-major, incorporating known effective practices for attracting women and people of color to STEM disciplines and thus addressing Equity Gaps in Access for both Mathematics and other STEM course.

Due to our development of these initiatives we have significant evidence that hiring another full-time math faculty (reducing the PT/FT ratio) will improve success and completion rates and close equity gaps for Hispanic Students within our department and the college.

"Goal 4. Global and Sustainable Promote shared responsibility for our environment and social justice; and create a diverse and culturally enriched community of global citizens."

Participation in GE Pathways.
Contextualizing mathematics in its applications to sustainability and social justice has been a key part of our development of Math 190, 200 (Statistics Pathway) and Math 225 (STEM Pathway). Math faculty have therefore been supportive of the GE Pathways program, where we aim to add Math 225 to Math 200 as one of the options under each of the two pathways. These could be the foundation of entry-level courses in various "Interest Areas" for Guided Pathways.

B. How does the proposed position address the program's strategic action plans and long-term goals? Please refer to specific elements of the most recent program review.

The mission of the Cañada College Math Department is to provide a strong mathematical and quantitative foundation for all students: in basic skills, liberal arts education, occupational training programs, and STEM. The department is intimately involved with the highly effective Math Jam program, strongly connected with the STEM Center, and developed and continually improves pathways programs for statistics and calculus. These supplemental services has been proven successful in the College's Student Equity Plan and overall Master Plan.

The department has needs for leadership, collaboration, continuation, and extensions of our curricular offerings and new math faculty position can expand these programs. This new team member will be supported by the STEM's Community of Practice and will be trained to help address the department's and college's strategic plans to focus on productive pedagogy for student learning and success. As mentioned in our program review, the department is aware of the equity gaps and have concrete plans to continue reducing these gaps.

C. How does the proposed position support program vitality and viability?

1. How far is the program from achieving the legislative goal of having 75% of instructional hours taught by full-time faculty?
    a. %CRNs that are taught by FT faculty: 54% previous semester 56% current semester ☐not applicable

2. If this proposal is not funded, will there remain a minimum of one existing full-time faculty in the discipline? ☒ Yes ☐ No

D. What is the evidence of student demand to justify the proposed position?

1. Number (headcount) of full-time faculty in the discipline: 7 current semester

2. Total FTE of course offerings: 12.3 previous semester 12.4 current semester ☐ not applicable

3. Percent of "Total FTE of course offerings" comprised by FT faculty: 63% previous semester 61% current semester ☐ not applicable

4. Average departmental Fill Rate: 90% previous semester 90% current semester ☐ not applicable

5. Enrollment history – qualitatively and quantitatively describe student demand/course enrollments within this discipline, especially for those courses that will be assigned to the proposed faculty member.

   The department has shrunk offerings of basic skills courses to be in compliance with AB 705, yet after reducing contact hours of our high-unit courses, we still are holding steady at 12.3.

   A historical analysis of the FTEF shows a historic low of 10.2 FTEF in 2009 after the last recession, with an average of 12FTEF for the past decade.

   On the STEM side, the enrollments in calculus and higher courses have increased from 178 in Fall 2012 and have remained steady at about 250 in a semester to Fall 2017. But in the decline of overall math enrollments from 1810 in Fall 2012 to 1492 in Fall 2017, the percentages of STEM students continue to rise from 9.8% to 16.8%.