

POSITION REQUESTED:

New
 Replacement: [Terry Crewse]

DIVISION: Mathematics

DIVISION CHAIR: Dr. Sherie Burgess

YEAR DIVISION LAST HIRED A FULL-TIME FACULTY POSITION: 2020

GENERAL INFORMATION REGARDING POSITION REQUEST:

- Which of the following areas of need will be addressed by this position? (check all that apply)
 - Transfer to 4-year colleges and universities
 - General Education
 - Basic Skills Instruction
 - Vocational instruction
 - Instructional Support Services
 - Student Support Services
- Is this position addressed in the college’s Educational Master Plan and/or the most recent Program Review for the area?
 - Yes (please cite below)
 - No (please explain why below)

...waitlists for math classes have been consistently high. Every year there are hundreds of students on the first day waitlists because there are not enough faculty to teach more classes, suggesting that we are currently understaffed. We currently have one faculty member who teaches both Math and Engineering courses. Our Engineering program is quickly expanding with 52 uniquely enrolled students in 2020-21. As demand for Engineering increases, our faculty member will need to focus her load predominantly on Engineering, leaving the Math courses she currently teaches unstaffed. As the new Engineering program grows, additional STEM courses are needed to meet the increasing demand to avoid engineering students getting caught in a bottleneck of courses and not graduating in a timely manner.

As previously mentioned, the Elementary Education degree has also been growing significantly in recent years. We began offering two sections of these math courses, which has grown to six sections. New California legislation, AB 130, allows more students to complete their teacher credential without taking CBEST and CSET exams if other math courses satisfy the basic skills and subject matter competency requirements. This will likely increase the number of students entering the Elementary Education pathway and increase the need for more of the Math P115/116 sections to be offered. The state anticipates this will grow the teacher credential programs, ultimately allowing more students to successfully become credentialed. Students will enroll in additional math coursework to choose this more appealing option along their Elementary Education pathway. Increased offerings of Math P115 and P116 without new faculty to teach them will be challenging and our division will struggle to keep up with the student demand.

Mathematics is required for practically all majors. At our current staffing levels, students are forced to postpone their educational plans. Student equity is one of our main priorities and providing equal opportunities for students to enroll in necessary coursework to complete their degrees is essential to educational attainment. (Mathematics Program Review Report, February 2022, p. 22-23)

3. Identify any resources the hiring of this position will require. Do not include salary and benefits, but please list things such as a computer, office space, equipment, and other related resources the new faculty member would require.

The replacement instructor would have the traditional needs of a professor on campus – office space, telephone, and computer.

4. List any classes likely to be taught by this individual. If the position is primarily non-teaching, please describe the person's assignment.

The replacement will be expected to teach the full range of math courses. The primary emphasis will be teaching the class with the highest waiting lists, Introduction to Probability & Statistics P122 and the co-requisite Math P22, followed by the increase in course offering for Structures & Concepts P115.

PROGRAM REVIEW DATA-BASED JUSTIFICATION:

Provide the following data measures for the past 5 academic years in classes/subjects to be taught by the faculty (as applicable). Program review data can be obtained by subject from the Institutional Research web page below (include with supplemental materials any additional data or relevant past program review content). Faculty needing assistance with collecting relevant data are encourage to contact our Institutional Research Director, Michael Carley.

<https://www.kccd.edu/institutional-research/program-review-data>

		2017-18	2018-19	2019-20	2020-21	2021-22
Enrollment at Census		2,760	2,471	2,409	1,832	1,573
Average number of students per section		32.5	30.2	27.2	22.3	17.4
First Day Waitlist		443	345	232	55	120
FTEF	TOTAL	22.42	22.61	20.29	19.81	21.68
	Full-Time	16.14	15.74	14.78	12.94	11.64
	Overload	2.54	3.00	2.31	2.47	3.37
	Adjunct	1.87	1.47	1.07	2.67	4.54
	Summer	1.87	2.40	2.14	1.74	2.14
FTES		399	360	304	223	183
Degrees & Certificates		2	4	13	8	10

OTHER JUSTIFICATION:

Provide here qualitative/narrative information that supports hiring this full-time position:

- Availability of part-time/overload faculty

We have several adjunct instructors, two are from our sister colleges and typically only able to teach one course. Adjunct applications are checked regularly; however, the availability of fully qualified individuals in mathematics who are willing to teach part-time remains low. We will be losing one of our adjuncts to BC, as he was hired for a tenure-track position.

- Compliance with state regulations/accreditations:

N/A

- Maintaining “one-full-time-faculty” program:

N/A

- Long-term community needs/support (Document with Advisory Committee, Program Review or other recommendations for increased staff):

Mathematics classes are required for degrees in high growth areas such as nursing, teaching, and criminal justice.

- Maintaining certificate/degree/transfer program:

The AS-T in Mathematics and the AS degree in Engineering requires three semesters of calculus and one course in differential equations/linear algebra. The enrollment in Math P103 (Calculus 1) has nearly doubled in the past few years, increasing the number of sections offered. With the addition of our Engineering degree, we expect growth in all of the Calculus courses – Math P103, P104, P205, P207, and P208. Furthermore, some of our local high schools have been requesting more and more sections to be offered on their campus, requiring more Math faculty availability.

- Courses are part of a core program and/or a graduation requirement (Identify program(s) and/or applicable graduation requirements):

Math P122 (Intro to Probability & Statistics) and/or the co-requisite Math P22 are the most common transfer class for all non-science or non-math major students.

Math P100 (College Pre-Calculus I), Math P101 (College Pre-Calculus II), Math P103/Math P104/Math P205/Math P207 (the Calculus and Differential Equations sequence), Math P208 (Linear Algebra) are requirements for all mathematics and engineering majors. Most science majors (pre-med, dentistry, physical therapy, pharmacy, biology, chemistry, physics, etc.) require Math P103/Math P104.

- Potential for development in a related and/or emerging discipline (Identify source for growth potential):

The opportunity to offer Baccalaureate degrees on campus has shown a need for additional upper division math courses. For example, the Modern Police Science degree needs an upper division Statistics course to fulfill the bachelor's degree.

Discussion of the Teacher Education bachelor's degree will increase the number of students needing mathematics coursework. Increased offerings of Math P115 and P116 without new faculty to teach them will be challenging. AB 130 allows more students to complete teacher credentialing with coursework to satisfy the basic skills and content knowledge requirements, rather than the CBEST and CSET. This will likely increase the number of students entering the Elementary Education pathway at PC and increase the need for more of the Math P115/116 sections to be offered.

- Potential for multi-discipline expertise (Cite discipline and justify need within each discipline):

Mathematics courses are important requirements of PC's general education checklist, as well as the CSU and UC transfer curriculum.

- Potential for aiding the college's goals of closing achievement gaps, aiding underserved populations, or other areas of the college's mission that may have an impact beyond the program itself.

The Math faculty have been diligently working and have fully implemented AB 705 by removing all basic skills courses. The Mathematics Division is one of the few community colleges in California to fully implement AB 705 in an effort to remove barriers for students. In fact, our faculty have been recognized in several studies for our work in AB 705 and the positive effect it has on our underserved student populations. Our division, as one of the highest rated mathematics divisions in the state of California, measures at a 0.98 proportionality index (out of 1.0) for student equity in Mathematics. In fact, our division has recently received an award for the work in student equity for mathematics.

- Other relevant areas not addressed in this list