

**For 2017-18 Submitted by:**

James M. Mailhot

**APRU Complete for:**

2017-18

**Program Mission Statement:**

PLO #1: Analyze and synthesize the concepts of mathematics from a graphical, analytical, numerical, and verbal approach.

PLO #2: Demonstrate and apply a systematic and logical approach to modeling and solving mathematical problems.

PLO #3: Use correct notation and mathematical precision in communicating mathematics.

#1 and #2 relate to the Institutional Core Competency “Critical thinking”. #3 relates to “Communication and expression”.

**I.A.1 What is the Primary Focus of Your Program?:**

Transfer

**I.A.2 Choose a Secondary Focus of Your Program:**

Basic skills

**I.B.1 Number Certificates of Achievement Awarded:**

**I.B.2 Number Certif of Achievement-Advanced Awarded:**

**I.B.3 #ADTs (Associate Degrees for Transfer) Awarded:**

16

**I.B.4 # AA and/or AS Degrees Awarded:**

**I.C.1. CTE Programs: Impact of External Trends:**

**I.C.2 CTE Programs: Advisory Board Input:**

**I.D.1 Academic Services & Learning Resources: #Faculty served:**

**I.D.2 Academic Services & Learning Resources: #Students served:**

### **I.D.3 Academic Services & Learning Resources: #Staff Served:**

#### **I.E.1 Full time faculty (FTEF):**

74.7

#### **I.E.2 #Student Employees:**

**I.E.3 % Full-time:** FT: 3.0% Overload: 9.0% PT: (-4.6%) In 2016-17, only 37.4% of our schedule was taught as full-time load.

#### **I.E.4 #Staff Employees:**

#### **I.E.5 Changes in Employees/Resources:**

**II.A Enrollment Trends:** 2013-14: 23,240

2014-15: 23,854

2015-16: 22,950

2016-17: 22,785

Enrollment has declined 2.0% from 2013-14 to 2016-17.

#### **II.B.1 Overall Success Rate:**

From 2013-14 to 2016-17, student success rate has risen from 63.7% to 64.7%.

#### **II.B.2 Plan if Success Rate of Program is Below 60%:**

Our student success rate is above 60%.

#### **II.C Changes Imposed by Internal/External Regulations:**

- Starting in 2015-16 the seat count in our developmental classes has been reduced from 40 to 35, as negotiated by the district administration and faculty. We taught 84 sections of developmental classes in Fall 2017, so this translates to an overall loss of 420 places in developmental classes. We would have to add over 12 new developmental sections to make up for the loss, which is equivalent to the quarterly load of four full-time instructors.
- The state passed AB 705 in Fall 2017. This law mandates that we maximize students' chances of completing transfer-level math within three quarters of taking their first math class at De Anza, and that we place students directly into transfer-level math unless we can demonstrate that they are unlikely to succeed at that level. In order to comply, the department will have to completely overhaul its developmental-level course offerings, and may also need to make changes to some higher-level courses. These changes will take effect in Fall 2019. In order to meet this tight schedule, the department will be

doing an extraordinary amount of curriculum work this Spring (2018) and throughout the 2018-19 school year.

- The department has taken on additional curriculum work to insure that the courses needed for transfer degrees align with the state C-ID descriptors.
- The department is creating separate curricula for honors versions of some of our courses.

### **III.A Growth and Decline of Targeted Student Populations:**

2013-14: 8,066

2014-15: 8,527

2015-16: 8,276

2016-17: 8,489

Targeted population enrollment has grown 5.2% from 2013-14 to 2016-17. In contrast, the non-targeted population shrank 5.8% over the same time period.

### **III.B Closing the Student Equity Gap:**

The equity gap has decreased from 16.4% in 2013-14 to 15.1% in 2016-17. The targeted population's success rate increased from 53.4% in 2013-14 to 55.2% in 2016-17. The non-targeted population's success rate increased from 69.7% to 70.3% in the same time period.

The plan in the 2013-14 Comprehensive Program Review included decreased class size for developmental classes, increased counseling services for math classes including at the developmental level, and expansion of MPS.

Decreased class size for developmental classes was implemented starting in 2015-16, and likely accounts for some of the increase in the success rate for both targeted and non-targeted populations. The MPS program expanded starting in 2016-17, and this likely also accounts for increases in the success rates.

We still need increased counseling services at all levels of math classes, including developmental; students need support in study skills and in academic planning. This will be especially true starting in 2019-20 with the implementation of AB 705, which will see students placed in higher-level courses who would previously have been placed in developmental courses.

### **III.C Plan if Success Rate of Targeted Group(s) is Below 60%:**

The targeted population had a 55.2% success rate in 2016-17. Much of this can be attributed to lower success rates in developmental classes. Implementation of AB 705 will have a dramatic effect on the department's developmental class offerings, starting in 2019-20. More students will be placed directly into transfer-level mathematics. If success rates in these transfer-level classes remain the same, there will be an overall increase in success rates. However, as students will be placed higher than they currently are, there is a danger that our least-prepared students will suffer. If so, the change could disproportionately affect the targeted groups, since those students are overrepresented in developmental-level classes. The

math department will maintain an equity focus as we work this Spring, and in the 2018-19 school year, to develop our AB 705-compliant course offerings.

### **III.D Departmental Equity Planning and Progress:**

#### **IV.A Cycle 2 PLOAC Summary (since June 30, 2014):**

100% assessment of Program Level Outcome statements. The department has a plan for assessing all Program Level Outcomes by Winter 2019.

#### **IV.B Cycle 2 SLOAC Summary (since June 30, 2014):**

625.8% assessment of Student Learning Outcome statements.

### **V.A Budget Trends:**

#### **V.B Funding Impact on Enrollment Trends:**

The math department lost 5 full-time instructors in the 2016-17 and 2017-18 school years, with only one replacement hire. It is becoming very difficult to find new part-time instructors, as we have tapped out the local market of qualified candidates. We face the prospect of a reduction in the number of sections we are able to offer as we lose full-time instructors without adding any new ones.

Another factor limiting our ability to expand enrollment is the availability of classrooms in high-demand time slots.

#### **V.C.1 Faculty Position(s) Needed:**

Growth

#### **V.C.2 Justification for Faculty Position(s):**

In the 2016-17 and 2017-18 school years, the department lost 5 full-time instructors. We plan to hire one full-time instructor this year. This leaves 4 spots un-filled.

Starting in 2015-16 our developmental classes have a maximum enrollment of 35 students, as opposed to 40 students previously. That makes 5 fewer students per developmental section who can enroll. In Fall 2016 we offered 84 developmental sections, so 420 fewer students were able to enroll in those sections. With a maximum enrollment of 35 students per section, we would need to offer 12 extra developmental sections to make up this lost enrollment. These 12 extra sections per quarter equal the load of four full-time instructors.

Our full-time faculty FTEF is only 37.4%. 62.6% of our classes are taught outside of full-time regular load, including over almost 50% taught as part-time load.

Even with our large number of long-time, part-time faculty, we have been forced to hire 10-20 new part-

time instructors per year to cover the number of sections we offer. Turnover among the new part-time faculty is high. The work needed to recruit, interview, hire, mentor, support, and evaluate them is a significant burden. It is extremely difficult to find enough qualified instructors. Unless we hire more full-time faculty, we will not be able to sustain our current enrollment levels.

**V.D.1 Staff Position(s) Needed:**

Growth position

**V.D.2 Justification for Staff Position(s):**

Instructional Associate for the computer labs.

**V.E.1 Equipment Requests:**

Over \$1,000

**V.E.2 Equipment Title, Description, and Quantity:**

- We request \$80,000 per year over the next three years to replace the computers in the lab rooms (S-42, S-44 and S-48) with laptops. (We would update one lab room per year over the next three years.) The computers in these lab rooms are becoming obsolete, and some have been breaking down.
- We also request site licenses for mathematical and statistical software: MatLab, Minitab.

**V.E.3 Equipment Justification:** New computers in the lab rooms, and site licenses for mathematical and statistical software will allow instructors to schedule lab projects for their classes. Our transfer agreements require a technology component in our statistics classes, and the technology is also by many instructors in-class at all levels.

Replacing the current, large-screen monitors with laptops would give us more flexibility with how we use the lab rooms. With the large monitors in the way, it is problematic to teach in these rooms. With laptops, it would be easy to have the students close the laptop when needed.

**V.F.1 Facility Request:** Classrooms – the department currently has scheduling priority in 12 classrooms on campus.

**V.F.2 Facility Justification:**

The limited number of classrooms in which we have scheduling priority makes it very hard for us to schedule as many classes as we would like at the most popular times of day. With more classrooms we would have more flexibility in scheduling high-demand classes at high-demand times. This would make it easier for more students to take the courses they need.

**V.G Equity Planning and Support:**

**V.H.1 Other Needed Resources:**

- Instructor copies of on-line textbooks.
- Increased budget for photocopying.
- Funding for department workshops and/or retreats.

**V.H.2 Other Needed Resources Justification:**

- Instructor copies – many of our instructors are excited to use open educational resources such as on-line textbooks. This can be a great benefit to the students. With traditional textbooks, instructors usually receive free copies from the publishers. More instructors would be likely to choose on-line textbooks if we had copies of the textbooks available to us.
- Photocopying – the current budget is extremely limited, and only allows for copying quizzes and exams. Students that want paper copies of syllabi, worksheets or other handouts are forced to print them themselves. This presents an equity issue, as not all students can afford to print out their own copies.
- Workshops & Retreats – sample topics could include AB 705, multiple measures and common assessment, technology training, equity solutions in the classroom, and an introduction to Common Core mathematics. These and other topics will be valuable to all members of the department. In particular, the math department has a very large number of part-time instructors, who often don't have a chance to interact with many of their colleagues.

**V.J. "B" Budget Augmentation:**

Please refer to the Dean's summary.

**V.K.1 Staff Development Needs:**

**V.K.2 Staff Development Needs Justification:**

**V.L Closing the Loop:**

We plan to assess the outcomes of receiving additional resources by analyzing the data in light of the degree to which it supports:

- increased enrollment
- decreased equity gap
- improved overall success rates

**For 2016-17 Submitted by:**

Jim Mailhot  
 mailhotjames@fhda.edu  
 x 8667

**Last Updated:** 04/03/2018