

Bakersfield College

Program Review – Annual Update

Attachments (place a checkmark beside the forms listed below that are attached):

xxx [Faculty Request Form](#)

xxx [Classified Request Form](#)

xxx [Budget Change Request Form](#)

[ISIT Form](#)

xxx [M & O Form](#)

xxx [Best Practices Form \(Required\)](#)

Other: _____

I. Program Information:

Program Name: Mathematics

Program Type: X Instructional Non-Instructional

Program Mission Statement:

In order to meet the needs of our students our primary mission is to offer academic and vocational education in lower division mathematics and to provide education and training that contribute to continuous work force improvement. Our secondary mission is to provide developmental instruction in pre-algebra, elementary and intermediate algebra and to support students with drop-in tutoring.

The Math Department is committed to developing student numeracy at Bakersfield College. We strive to expand their capacity to think critically and solve problems. It is our goal that our students will be able to think critically, abstractly, logically , algorithmically to evaluate and solve problems and that they will also be able to communicate in the language of mathematics.

Degrees and Certificates: List the degrees and/or Certificates of Achievement awarded by the program, if applicable.

We currently offer an A.A. degree. We have entered a AS-T into curricunet and are awaiting approval from the state.

II. Program Assessment:

a. How did your outcomes assessment results inform your program planning?

It did not. Unfortunately the program does not drive decisions in the mathematics department. The remedial needs of the school affect our planning more than the Mathematics degree program.

b. How did your outcomes assessment results inform your resource requests this year?

It did not.

c. Note any significant changes in your program's strengths since last year.

1) Strength: Working with the Academic Development Department to design a fast track AC-Dev 78-50 program.

We met with AC DEV and designed a fastrack class. AC DEV is hoping to try out the class this year.

2) Strength: Trembley Lab Our most up to date classroom. **Due to STEM grant received by Dean O'Connor we were able to put technology into most of our classrooms. We now have nine high tech classrooms.**

3) Strength: Calculator rental program. **In Fall 2013 we have rented 160 calculators at the main campus and another 50 at the Delano campus.**

Strength: High School Outreach Program. **Our program expanded with the addition of the English and Physical Science Departments joining us on our high school visits. The Mathematics department has also attended College Night and will attend the Go and Grow Resource Fair.**

4) Strength: North Kern Math Summit. **This summit was successfully held for the second year.**

5) Strength: Math Jam. **We added another section to the Math Jam. This section helps prepare students for their first semester of calculus.**

6) Strength: **We continue to offer multiple types of instruction in mathematics and are going to try compressed classes in the Spring.**

d. Note any significant changes in your program's weaknesses since last year.

1) Weakness: Number of adjunct instructors. **We have found one new adjunct and are in the process of interviewing three applicants. It is difficult to find qualified mathematics instructors in Kern County.**

2) Weakness: Number of classrooms. **We have acquired the partial use of MS 3/4, a gain of about ¾ of a classroom.**

3) Weakness : Success rate in Elementary and Intermediate algebra. **We have started the new restructuring of these classes. We will compare with the success data of Math BA and Math BD to see if we are effective.**

e. If applicable, describe any unplanned events that impacted your program.

We unexpectedly lost our Dean, which greatly damaged department morale. Also the STEM coordinator is on pregnancy leave and no temporary replacement was hired.

III. Technology and Facilities Analysis

a. Has your program received new or repurposed technology in this cycle?

i. If yes, how have you assessed the outcome of the use of that technology and its effectiveness as it relates to student outcomes? **We have. Rooms MS 104, MS 105, MS 106, MS 108, MS 109, MS 110, and MS 111 were all upgraded with computers, document cameras and Britelinks. Since we were not sure when the technology would be installed in our rooms, our instructors were not fully able to prepare to use the technology. This is the first year we have been able to prepare to use our new technology.**

ii. If no, what technology could play a contributing factor in future student success and outcomes for your program? How would you evaluate the use of this technology?

iii. How might other areas use this technology? **Seems unlikely as we are using the rooms all day, however all other areas on campus could benefit from having their rooms modernized as we did. One area it could help in is classroom lectures and presentations.**

(NOTE: Technology requests can be made by filling out the [ISIT Request form](#).)

- b. Has your area received any facilities maintenance, repair or updating in this cycle? If yes, how has the outcome contributed to student success? Our rooms in the MS building were given new wall covering. All rooms in the MS building have white boards now. We fel our students are happier in our cleaner rooms.

V. Trend Data Analysis:

Discuss any significant changes in data trends over the last year using data provided by Institutional Research. Metrics may include the following:

- a. Changes in student demographics (gender, age and ethnicity) **Over the last 5 years, the number of traditional college students(age 19 and under) has decreased from a high of 41% in of our students in 2009-10 to the current 34%. We are 10% higher in this category than the college average. In the 20-29 year age category , we have steadily increased from a low of 43% of our students in 2008-09 to the current 51%, which is exactly the same as the college average. In the higher age categories our percentages have held fairly steady and are lower than the college averages. Hopefully this is due to our stressing to the students to finish their mathematics requirement as soon as possible and not put the requirement off.**
- b. Changes in enrollment (headcount, sections, course enrollment and productivity) **Due to staffing Math Lab experienced a slight decrease in productivity, while the face to face productivity increased. As the Math Lab returns to full staffing , the productivity numbers should also rise.**
- c. Success and retention for face-to-face, as well as online/distance courses **Math Lab Success Over the past year we have increased the required hours that students spend on the ALEKS program, and we now require both enrolled students and students with Incomplete grades to come in monthly to take assessments. The success rate in the Math Lab went up from 37.2% to 44.2%. Also in remedial success, in the years 2002-3 to 2006-7 our remedial success went from 19.2% to 24.2 %. Since this data was just received on 9-27-13, we have not had time to analyze it, but it worth noting that this era was before the district and state had its financial difficulties. (See attached)**

| | | | | Sections | Retention | Success |
|----------|-----------|----------------------|-------------|-------------|--------------|--------------|
| | | | | Distance Ed | Distance Ed | Distance Ed |
| Math Lab | 2012-2013 | 201330 | Spring 2013 | 12 | 81.1% | 41.4% |
| | | 201270 | Fall 2012 | 10 | 77.8% | 44.3% |
| | | 201250 | Summer 2012 | 5 | 77.3% | 52.2% |
| | | Annual Yr Sum | | 27 | 79.2% | 44.2% |
| | 2011-2012 | 201230 | Spring 2012 | 9 | 70.4% | 37.2% |
| | | 201170 | Fall 2011 | 8 | 79.1% | 37.9% |
| | | 201150 | Summer 2011 | 8 | 79.8% | 36.3% |
| | | Annual Yr Sum | | 25 | 75.0% | 37.2% |
| | 2010-2011 | 201130 | Spring 2011 | 8 | 72.3% | 29.9% |
| | | 201070 | Fall 2010 | 10 | 71.6% | 25.7% |
| | | 201050 | Summer | 6 | 76.2% | 30.7% |

| | | | | | |
|------------------|----------------------|----------------------|-----------|--------------|--------------|
| | | 2010 | | | |
| | | Annual Yr Sum | | 24 | 72.8% |
| 2009-2010 | 201030 | Spring 2010 | 8 | 69.3% | 30.0% |
| | 200970 | Fall 2009 | 30 | 63.2% | 27.1% |
| | 200950 | Summer 2009 | 10 | 74.0% | 38.8% |
| | Annual Yr Sum | | 48 | 67.9% | 30.7% |
| 2008-2009 | 200930 | Spring 2009 | 42 | 72.9% | 28.2% |
| | 200870 | Fall 2008 | 42 | 70.3% | 26.1% |
| | 200850 | Summer 2008 | 12 | 75.3% | 39.4% |
| | Annual Yr Sum | | 96 | 72.1% | 28.9% |

(Please place trend data here)

- d. Degrees and certificates awarded (five-year trend data for each degree and/or certificate awarded)
We average 5 A.A. degrees a year.
- e. Other program-specific data *(please specify or attach)*
(Please place math jam data here)

V. Progress on Program Goals:

List the program’s goals from the previous Program Review. For each goal, please discuss progress and changes. If the program is addressing more than two (2) goals, please duplicate this section.

Previously Established Goal 1: Modernize Classrooms
Progress on Goal: **9 of our 11 classrooms are now high Tech.**

Completed: _____ (Date) Revised: _____ (Date)

Comments on Goal 1: **We still need to work on two of our classrooms. LA 116 probably can be upgraded but for the best environment needs to be completely redone. The orientation of the room distracts from the learning process. MS 103 has a low ceiling and we are searching for alternatives to bring technology into it.**

Previously Established Goal 2: (state goal) Release time for faculty

Progress on Goal:

Completed: _____ (Date)

Revised: _____ (Date)

Comments on Goal 2: **No progress. We have requested through the STEM grant for release/reassign time for faculty heading the student poster projects, the math club, the future teachers club, our high school outreach group, the AMAYTC math contest and our articulation day.**

Previously Established Goal 3: Examine other institutions remedial programs

Progress on Goal: **Math faculty went to Tennessee, Cerritos, Reedley and other colleges to examine their programs. We have incorporated some of the ideas in the Math Lab. We are in the process of evaluating their effectiveness. We are still working with the Academic Development Department. We have designed a class which could shorten the time a student needs to complete their mathematics. Hopefully the class will be implemented in the Spring.**

Completed: _____ (Date)

Revised: _____ (Date)

VI. Curricular Review (Instructional Programs only):

- a. List each of the courses offered within the discipline’s academic program in the first column, using one row per course. Place an **X** in the appropriate column to indicate when the course is scheduled for review.

| Course | 2013-2014 (2019-2020) | 2014-2015 (2020-2021) | 2015-2016 (2021-2022) | 2016-2017 (2022-2023) | 2017-2018 (2023-2024) | 2018-2019 (2024-2025) |
|------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <u>B4A</u> | <u>x</u> | | | | | |
| <u>B1A</u> | | | | | <u>x</u> | |
| <u>B22</u> | <u>x</u> | | | | | |
| <u>B50</u> | <u>X</u> | | | | | |
| <u>B2</u> | <u>x</u> | | | | | |
| <u>B60</u> | | | | <u>x</u> | | |
| <u>B70</u> | | | | <u>x</u> | | |
| <u>B6A</u> | | | | <u>x</u> | | |
| <u>B6C</u> | | | | <u>x</u> | | |
| <u>B6D</u> | | | | <u>X</u> | | |
| <u>B6e</u> | | | | <u>x</u> | | |
| <u>B23</u> | | | | | <u>x</u> | |
| <u>B1B</u> | | | | | <u>x</u> | |
| <u>B21</u> | <u>x</u> | | | | | |

- b. List courses that are proposed for addition.
- c. List courses that are proposed for deletion.
- d. List any changes the program has made to online/hybrid/distance education courses. **The hybrid courses are contacting students more often . We hope this is the reason for the improvement is student success in the Math Lab.**
- e. Provide an update on the program’s transition to adopting a [Transfer Model Curriculum](#) (AA-T or AS-T), if applicable. **We have entered an AS-T into curricunet. We have applied for C-ID numbers for our first and second semester calculus classes(Math 6A and 6B) and for our differential equations class (Math 6D). We are also working with our dean , the EVP, the curriculum committee and all the areas our various mathematics classes service to obtain C-ID numbers for classes which are requirements for degrees in other disciplines.**

VII. Conclusions and Findings:

Present any conclusions and findings about the program.

The mathematics program has been very consistent in the number of degrees it has awarded over the past five years. Our remedial program appears to have been improving, nearly reaching the state average for student success. We are still in need of classroom space, office space, instructors and math lab personnel. In Kern County it is extremely difficult to find qualified adjunct instructors.

It has also recently been suggested that there are a large number of mathematics majors on campus, far more than our degree numbers would indicate. While we are highly suspicious these numbers are incorrect, it would be prudent

to explore this and either find all these mathematics majors or discover why they are identifying themselves as mathematics majors when they are not.