**Bakersfield College**

**Program Review – Annual Update 2015**

**I. Program Information:**

Program Name: Office of the Dean of Mathematics and Sciences

Program Type:  Instructional  Student Affairs X Administrative Service

***Bakersfield College Mission****:* Bakersfield College provides opportunities for students from diverse economic, cultural, and educational backgrounds to attain Associate and Baccalaureate degrees and certificates, workplace skills, and preparation for transfer. Our rigorous and supportive learning environment fosters students’ abilities to think critically, communicate effectively, and demonstrate competencies and skills in order to engage productively in their communities and the world.

Describe how the program supports the Bakersfield College Mission:

As a unit of Academic Affairs, the mission of the Office of the Dean of Mathematics and Sciences is to provide leadership in the development and evaluation of instructional programs, academic support services, faculty, and curriculum to ensure integrity and excellence of academics in mathematics and science related disciplines at Bakersfield College.

Program Mission Statement:

Bakersfield College provides opportunities for students from diverse economic, cultural, and educational backgrounds to attain degrees and certificates, workplace skills, and preparation for transfer. Our rigorous and supportive learning environment fosters students’ abilities to think critically, communicate effectively, and demonstrate competencies and skills in order to engage productively in their communities and the world. The Office of the Dean of Mathematics and Sciences embraces the core values of the College:

* promoting rigorous **learning** standards that are presented in a fashion that maximize student success.
* approaching all decisions with **integrity**.
* assuring student, faculty, and staff **wellness** through appropriate safety and training,
* embracing **diversity** with equity with targeted efforts such as MESA.
* serving the BC **community** with a voice for students, faculty, and staff in our processes and outreach to secondary education, transfer institutions, and local employers.
* enhancing **sustainability** through professional development and grant and partnership funding of capital improvements.

**II. Progress on Program Goals:**

1. List the program’s current goals. For each goal (minimum of 2 goals), discuss progress and changes. If the program is addressing more than two (2) goals, please duplicate this section.

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| --- | --- | --- | --- |
| **Program Goal** | **Which institutional goals from the Bakersfield College Strategic Plan will be advanced upon completion of this goal? (select all that apply)** | **Progress on goal achievement**  **(choose one)** | **Comments** |
| 1. Evaluate and update pre-collegiate curriculum. | **X** 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  **X** Ongoing: \_\_\_\_\_\_\_\_\_\_ (Date) | Math B65 has been developed and is currently being evaluated through governance for approval as a pilot for the spring semester. |
| 2. Develop a variety of summer bridge options. | **X** 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  **X** Ongoing: \_\_\_\_\_\_\_\_\_\_ (Date) | The math department is work with the Equity Committee to retool previous summer math jamb and week zero activities to improve student success during the regular session and on placement. Additionally, MESA offers a week zero event to get underserved students interested in STEM majors. |
| 3. Support departments to expand academic engagement initiatives like thematic learning communities and service learning. | **X** 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  **X** Ongoing: \_\_\_\_\_\_\_\_\_\_ (Date) | The math department continues to support developmental-level learning communities to allow students to complete multiple math courses in the same semester. They also promote service learning with their active student Math Club. Efforts are starting to create a student Chemistry Club. |
| 4. Manage the faculty evaluation and improvement process. | 1: Student Learning  2: Student Progression and Completion  3: Facilities  **X** 4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  **X** Ongoing: \_\_\_\_\_\_\_\_\_\_ (Date) | The office has scheduled and conducted faculty evaluations following the CCA agreement. |
| 4. Develop and manage a budget that supports the needs of the unit while maintaining the financial integrity of the college. | 1: Student Learning  2: Student Progression and Completion  **X** 3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  **X** Ongoing: \_\_\_\_\_\_\_\_\_\_ (Date) | The office has submitted a budget that matches growth and instructional improvement with needed funds. As the departments expand service to both main campus and BC sites, the need for supplies and travel are increasing. Request for additional funds has been limited to core needs. |
| 5. Increase student participation in academic support services. | 1: Student Learning  **X** 2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  **X** Ongoing: \_\_\_\_\_\_\_\_\_\_ (Date) | The office supports student advising and counseling through the STEM and MESA programs, which are grant-funded. These programs connect students directly to dedicated counselors, academic tutors, and transfer advisors. |
| 6. Evaluate and expand accelerated and compressed curriculum. | 1: Student Learning  **X** 2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  **X** Ongoing: \_\_\_\_\_\_\_\_\_\_ (Date) | The math department offers compressed “late start” developmental courses through the Math Learning Center. |
| 7. Ensure the alignment of curriculum to state  C-IDs, submission of an AS-T in Chemistry, and accuracy of current curriculum. | 1: Student Learning  **X** 2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  **X** Ongoing: \_\_\_\_\_\_\_\_\_\_ (Date) | The chemistry AS-T program was submitted this past summer for state approval. The biology AS-T program is being submitted this AY, and critical science courses will also be submitted for C-ID approval. Two probationary C-ID courses in mathematics will be revised this year and re-submitted. |

1. List new or revised goals (if applicable)

|  |  |  |
| --- | --- | --- |
| **New/Replacement Program Goal** | **Which institutional goals will be advanced upon completion of this goal? (select all that apply)** | **Anticipated Results** |
| **8.** Scale up college and community mentors for mentorship programs. | 1: Student Learning  **X** 2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Working with the Equity Committee, the office has proposed a new developmental math pre-supplemental instruction initiative to encourage faculty to mentor potential SI leaders for 7-8 weeks prior to starting as SI leaders to help improve Equity student success in these courses. MESA recently received additional funds that are being used to fund a new adjunct counselor position to assist students in this program. |
| **9.** Ensure the health & wellness college value is integrated into campus activities and meetings. | 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  **X** 5: Leadership and Engagement | The office is working with the KCCD office to ensure that laboratory faculty have appropriate safety training in the Fall 2015 semester and safety manuals are updated. |

**III. Trend Data Analysis:**

Highlight ***any significant changes*** in the following metrics and discuss what such changes mean to your program.

1. Changes in student demographics (gender, age and ethnicity). The demographics of the departments within the instructional unit remained constant over the year.
2. Changes in enrollment (headcount, sections, course enrollment and productivity).

Comparing Fall 2014 to Fall 2015, the instructional unit:

* Increased sections from 201 to 210.
* Increased headcount from 6781 to 7123.
* Increased FTES from 1124 to 1190.
* Decreased waitlists from 1993 to 1624.

1. Success and retention for face-to-face, as well as online/distance courses. (Last 5 Years)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | **Sections** |  | **Retention Rate** | | **Success Rate** | |
|  |  |  |  | Traditional | Dist Ed | Traditional | Dist Ed | Traditional | Dist Ed |
| **Astronomy** | **2014-2015** | 201530 | Spring 2015 | 3 |  | 72.2% |  | 37.3% |  |
|  |  | 201470 | Fall 2014 | 4 |  | 69.4% |  | 39.4% |  |
|  |  | **Annual Yr Sum** | | **7** |  | **70.6%** |  | **38.5%** |  |
|  | **2013-2014** | 201430 | Spring 2014 | 3 |  | 61.5% |  | 36.1% |  |
|  |  | 201370 | Fall 2013 | 3 |  | 60.0% |  | 37.3% |  |
|  |  | **Annual Yr Sum** | | **6** |  | **60.7%** |  | **36.8%** |  |
|  | **2012-2013** | 201330 | Spring 2013 | 3 |  | 74.6% |  | 49.2% |  |
|  |  | 201270 | Fall 2012 | 3 |  | 57.9% |  | 35.3% |  |
|  |  | **Annual Yr Sum** | | **6** |  | **65.9%** |  | **42.0%** |  |
|  | **2011-2012** | 201230 | Spring 2012 | 4 |  | 56.6% |  | 31.8% |  |
|  |  | 201170 | Fall 2011 | 4 |  | 67.8% |  | 37.9% |  |
|  |  | **Annual Yr Sum** | | **8** |  | **62.3%** |  | **34.9%** |  |
|  | **2010-2011** | 201130 | Spring 2011 | 4 |  | 59.8% |  | 39.1% |  |
|  |  | 201070 | Fall 2010 | 4 |  | 67.7% |  | 38.2% |  |
|  |  | **Annual Yr Sum** | | **8** |  | **63.8%** |  | **38.6%** |  |
| **Biology** | **2014-2015** | 201530 | Spring 2015 | 41 |  | 90.5% |  | 70.0% |  |
|  |  | 201470 | Fall 2014 | 40 |  | 85.1% |  | 64.1% |  |
|  |  | 201450 | Summer 2014 | 10 |  | 91.1% |  | 70.9% |  |
|  |  | **Annual Yr Sum** | | **91** |  | **88.1%** |  | **67.4%** |  |
|  | **2013-2014** | 201430 | Spring 2014 | 41 |  | 88.8% |  | 67.7% |  |
|  |  | 201370 | Fall 2013 | 42 |  | 86.2% |  | 64.4% |  |
|  |  | 201350 | Summer 2013 | 8 |  | 95.7% |  | 77.0% |  |
|  |  | **Annual Yr Sum** | | **91** |  | **88.1%** |  | **66.9%** |  |
|  | **2012-2013** | 201330 | Spring 2013 | 37 |  | 87.3% |  | 65.8% |  |
|  |  | 201270 | Fall 2012 | 39 |  | 85.1% |  | 68.9% |  |
|  |  | 201250 | Summer 2012 | 6 |  | 91.0% |  | 66.2% |  |
|  |  | **Annual Yr Sum** | | **82** |  | **86.5%** |  | **67.3%** |  |
|  | **2011-2012** | 201230 | Spring 2012 | 37 |  | 86.5% |  | 63.8% |  |
|  |  | 201170 | Fall 2011 | 40 |  | 81.6% |  | 64.2% |  |
|  |  | 201150 | Summer 2011 | 5 |  | 89.9% |  | 70.6% |  |
|  |  | **Annual Yr Sum** | | **82** |  | **84.3%** |  | **64.4%** |  |
|  | **2010-2011** | 201130 | Spring 2011 | 38 |  | 84.7% |  | 70.8% |  |
|  |  | 201070 | Fall 2010 | 41 |  | 82.2% |  | 63.3% |  |
|  |  | 201050 | Summer 2010 | 7 |  | 93.6% |  | 75.7% |  |
|  |  | **Annual Yr Sum** | | **86** |  | **84.2%** |  | **67.6%** |  |
| **Chemistry** | **2014-2015** | 201530 | Spring 2015 | 15 |  | 87.6% |  | 71.9% |  |
|  |  | 201470 | Fall 2014 | 16 |  | 82.9% |  | 66.7% |  |
|  |  | 201450 | Summer 2014 | 3 |  | 93.2% |  | 89.0% |  |
|  |  | **Annual Yr Sum** | | **34** |  | **85.8%** |  | **70.9%** |  |
|  | **2013-2014** | 201430 | Spring 2014 | 15 |  | 86.7% |  | 63.4% |  |
|  |  | 201370 | Fall 2013 | 18 |  | 81.3% |  | 55.0% |  |
|  |  | 201350 | Summer 2013 | 4 |  | 87.2% |  | 66.0% |  |
|  |  | **Annual Yr Sum** | | **37** |  | **84.2%** |  | **59.6%** |  |
|  | **2012-2013** | 201330 | Spring 2013 | 16 |  | 77.6% |  | 61.6% |  |
|  |  | 201270 | Fall 2012 | 13 |  | 79.8% |  | 63.2% |  |
|  |  | 201250 | Summer 2012 | 4 |  | 88.2% |  | 69.9% |  |
|  |  | **Annual Yr Sum** | | **33** |  | **79.7%** |  | **63.2%** |  |
|  | **2011-2012** | 201230 | Spring 2012 | 15 |  | 84.4% |  | 67.2% |  |
|  |  | 201170 | Fall 2011 | 14 |  | 80.2% |  | 63.5% |  |
|  |  | 201150 | Summer 2011 | 3 |  | 85.3% |  | 75.0% |  |
|  |  | **Annual Yr Sum** | | **32** |  | **82.6%** |  | **66.2%** |  |
|  | **2010-2011** | 201130 | Spring 2011 | 16 |  | 79.7% |  | 64.0% |  |
|  |  | 201070 | Fall 2010 | 14 |  | 77.2% |  | 59.1% |  |
|  |  | 201050 | Summer 2010 | 3 |  | 87.3% |  | 77.2% |  |
|  |  | **Annual Yr Sum** | | **33** |  | **79.4%** |  | **63.1%** |  |
| **Earth Science** | **2014-2015** | 201530 | Spring 2015 | 8 |  | 93.6% |  | 73.7% |  |
|  |  | 201470 | Fall 2014 | 7 |  | 88.0% |  | 62.4% |  |
|  |  | 201450 | Summer 2014 | 2 |  | 94.6% |  | 94.6% |  |
|  |  | **Annual Yr Sum** | | **17** |  | **91.2%** |  | **69.6%** |  |
|  | **2013-2014** | 201430 | Spring 2014 | 8 |  | 91.2% |  | 74.2% |  |
|  |  | 201370 | Fall 2013 | 8 |  | 88.9% |  | 77.0% |  |
|  |  | 201350 | Summer 2013 | 2 |  | 92.9% |  | 75.0% |  |
|  |  | **Annual Yr Sum** | | **18** |  | **90.3%** |  | **75.5%** |  |
|  | **2012-2013** | 201330 | Spring 2013 | 8 |  | 91.0% |  | 69.1% |  |
|  |  | 201270 | Fall 2012 | 5 |  | 92.7% |  | 69.6% |  |
|  |  | 201250 | Summer 2012 | 2 |  | 98.2% |  | 96.4% |  |
|  |  | **Annual Yr Sum** | | **15** |  | **92.2%** |  | **71.5%** |  |
|  | **2011-2012** | 201230 | Spring 2012 | 8 |  | 83.6% |  | 58.7% |  |
|  |  | 201170 | Fall 2011 | 5 |  | 84.8% |  | 55.1% |  |
|  |  | 201150 | Summer 2011 | 3 |  | 100.0% |  | 84.4% |  |
|  |  | **Annual Yr Sum** | | **16** |  | **85.8%** |  | **60.2%** |  |
|  | **2010-2011** | 201130 | Spring 2011 | 7 |  | 84.2% |  | 65.3% |  |
|  |  | 201070 | Fall 2010 | 5 |  | 88.5% |  | 68.3% |  |
|  |  | 201050 | Summer 2010 | 3 |  | 94.4% |  | 83.3% |  |
|  |  | **Annual Yr Sum** | | **15** |  | **86.9%** |  | **68.3%** |  |
| **Geography** | **2014-2015** | 201530 | Spring 2015 | 8 |  | 89.8% |  | 63.0% |  |
|  |  | 201470 | Fall 2014 | 8 |  | 90.7% |  | 69.7% |  |
|  |  | 201450 | Summer 2014 | 2 |  | 60.7% |  | 60.7% |  |
|  |  | **Annual Yr Sum** | | **18** |  | **89.2%** |  | **66.2%** |  |
|  | **2013-2014** | 201430 | Spring 2014 | 8 |  | 94.6% |  | 76.1% |  |
|  |  | 201370 | Fall 2013 | 8 |  | 89.2% |  | 65.8% |  |
|  |  | **Annual Yr Sum** | | **16** |  | **91.9%** |  | **70.9%** |  |
|  | **2012-2013** | 201330 | Spring 2013 | 8 |  | 89.1% |  | 66.8% |  |
|  |  | 201270 | Fall 2012 | 8 |  | 90.3% |  | 69.9% |  |
|  |  | 201250 | Summer 2012 | 2 |  | 95.7% |  | 89.1% |  |
|  |  | **Annual Yr Sum** | | **18** |  | **90.0%** |  | **69.5%** |  |
|  | **2011-2012** | 201230 | Spring 2012 | 8 |  | 88.5% |  | 71.1% |  |
|  |  | 201170 | Fall 2011 | 8 |  | 89.5% |  | 69.8% |  |
|  |  | **Annual Yr Sum** | | **16** |  | **89.0%** |  | **70.5%** |  |
|  | **2010-2011** | 201130 | Spring 2011 | 8 |  | 83.7% |  | 61.3% |  |
|  |  | 201070 | Fall 2010 | 8 |  | 91.7% |  | 70.5% |  |
|  |  | **Annual Yr Sum** | | **16** |  | **87.7%** |  | **65.9%** |  |
| **Geology** | **2014-2015** | 201530 | Spring 2015 | 5 |  | 89.1% |  | 79.9% |  |
|  |  | 201470 | Fall 2014 | 5 |  | 86.3% |  | 74.0% |  |
|  |  | 201450 | Summer 2014 | 2 |  | 97.8% |  | 95.7% |  |
|  |  | **Annual Yr Sum** | | **12** |  | **89.2%** |  | **79.8%** |  |
|  | **2013-2014** | 201430 | Spring 2014 | 6 |  | 90.1% |  | 77.4% |  |
|  |  | 201370 | Fall 2013 | 8 |  | 84.0% |  | 66.0% |  |
|  |  | 201350 | Summer 2013 | 2 |  | 93.4% |  | 87.9% |  |
|  |  | **Annual Yr Sum** | | **16** |  | **87.6%** |  | **73.3%** |  |
|  | **2012-2013** | 201330 | Spring 2013 | 6 |  | 85.9% |  | 69.0% |  |
|  |  | 201270 | Fall 2012 | 7 |  | 89.0% |  | 68.4% |  |
|  |  | 201250 | Summer 2012 | 2 |  | 95.8% |  | 90.6% |  |
|  |  | **Annual Yr Sum** | | **15** |  | **88.6%** |  | **71.5%** |  |
|  | **2011-2012** | 201230 | Spring 2012 | 5 |  | 82.4% |  | 64.5% |  |
|  |  | 201170 | Fall 2011 | 7 |  | 84.5% |  | 65.3% |  |
|  |  | 201150 | Summer 2011 | 2 |  | 91.1% |  | 88.1% |  |
|  |  | **Annual Yr Sum** | | **14** |  | **84.7%** |  | **68.4%** |  |
|  | **2010-2011** | 201130 | Spring 2011 | 6 |  | 91.1% |  | 73.7% |  |
|  |  | 201070 | Fall 2010 | 8 |  | 87.0% |  | 74.5% |  |
|  |  | 201050 | Summer 2010 | 3 |  | 92.2% |  | 92.2% |  |
|  |  | **Annual Yr Sum** | | **17** |  | **89.2%** |  | **76.6%** |  |
| **Mathematics** | **2014-2015** | 201530 | Spring 2015 | 100 | 15 | 85.9% | 78.5% | 55.6% | 37.3% |
|  |  | 201470 | Fall 2014 | 100 | 14 | 83.7% | 79.7% | 54.0% | 40.8% |
|  |  | 201450 | Summer 2014 | 20 | 8 | 85.8% | 78.5% | 66.6% | 49.0% |
|  |  | **Annual Yr Sum** | | **220** | **37** | **84.9%** | **79.0%** | **55.9%** | **40.8%** |
|  | **2013-2014** | 201430 | Spring 2014 | 101 | 15 | 85.7% | 80.8% | 58.3% | 46.6% |
|  |  | 201370 | Fall 2013 | 102 | 15 | 82.6% | 75.7% | 52.7% | 43.1% |
|  |  | 201350 | Summer 2013 | 21 | 8 | 86.9% | 76.1% | 65.3% | 47.1% |
|  |  | **Annual Yr Sum** | | **224** | **38** | **84.4%** | **77.8%** | **56.4%** | **45.2%** |
|  | **2012-2013** | 201330 | Spring 2013 | 87 | 16 | 85.5% | 77.0% | 54.9% | 43.3% |
|  |  | 201270 | Fall 2012 | 94 | 12 | 84.5% | 76.1% | 54.4% | 44.8% |
|  |  | 201250 | Summer 2012 | 12 | 6 | 84.0% | 77.7% | 60.5% | 53.4% |
|  |  | **Annual Yr Sum** | | **193** | **34** | **84.9%** | **76.8%** | **55.0%** | **45.5%** |
|  | **2011-2012** | 201230 | Spring 2012 | 92 | 14 | 81.9% | 67.6% | 55.5% | 35.2% |
|  |  | 201170 | Fall 2011 | 81 | 11 | 80.1% | 76.4% | 52.1% | 36.8% |
|  |  | 201150 | Summer 2011 | 11 | 9 | 86.3% | 79.2% | 69.2% | 36.4% |
|  |  | **Annual Yr Sum** | | **184** | **34** | **81.4%** | **72.6%** | **54.9%** | **35.9%** |
|  | **2010-2011** | 201130 | Spring 2011 | 93 | 12 | 78.6% | 71.2% | 48.8% | 30.0% |
|  |  | 201070 | Fall 2010 | 94 | 13 | 78.3% | 70.2% | 49.7% | 25.7% |
|  |  | 201050 | Summer 2010 | 17 | 7 | 86.8% | 76.3% | 62.5% | 30.9% |
|  |  | **Annual Yr Sum** | | **204** | **32** | **79.1%** | **71.7%** | **50.3%** | **28.5%** |
| **Physical Science** | **2014-2015** | 201530 | Spring 2015 | 3 |  | 85.1% |  | 77.0% |  |
|  |  | 201470 | Fall 2014 | 3 |  | 82.5% |  | 69.8% |  |
|  |  | 201450 | Summer 2014 | 2 |  | 97.7% |  | 93.2% |  |
|  |  | **Annual Yr Sum** | | **8** |  | **87.3%** |  | **78.5%** |  |
|  | **2013-2014** | 201430 | Spring 2014 | 4 |  | 88.6% |  | 77.2% |  |
|  |  | 201370 | Fall 2013 | 3 |  | 84.4% |  | 75.0% |  |
|  |  | 201350 | Summer 2013 | 2 |  | 97.8% |  | 86.7% |  |
|  |  | **Annual Yr Sum** | | **9** |  | **89.4%** |  | **78.7%** |  |
|  | **2012-2013** | 201330 | Spring 2013 | 3 |  | 84.8% |  | 60.6% |  |
|  |  | 201270 | Fall 2012 | 3 |  | 82.3% |  | 66.1% |  |
|  |  | **Annual Yr Sum** | | **6** |  | **83.6%** |  | **63.3%** |  |
|  | **2011-2012** | 201230 | Spring 2012 | 2 |  | 93.8% |  | 77.1% |  |
|  |  | 201170 | Fall 2011 | 3 |  | 80.8% |  | 69.2% |  |
|  |  | **Annual Yr Sum** | | **5** |  | **85.7%** |  | **72.2%** |  |
|  | **2010-2011** | 201130 | Spring 2011 | 2 |  | 83.7% |  | 65.3% |  |
|  |  | 201070 | Fall 2010 | 3 |  | 86.4% |  | 70.4% |  |
|  |  | 201050 | Summer 2010 | 2 |  | 98.0% |  | 96.0% |  |
|  |  | **Annual Yr Sum** | | **7** |  | **88.9%** |  | **76.1%** |  |
| **Physics** | **2014-2015** | 201530 | Spring 2015 | 7 |  | 95.0% |  | 90.0% |  |
|  |  | 201470 | Fall 2014 | 7 |  | 87.8% |  | 78.2% |  |
|  |  | 201450 | Summer 2014 | 2 |  | 91.7% |  | 81.3% |  |
|  |  | **Annual Yr Sum** | | **16** |  | **91.3%** |  | **83.6%** |  |
|  | **2013-2014** | 201430 | Spring 2014 | 7 |  | 91.7% |  | 83.4% |  |
|  |  | 201370 | Fall 2013 | 6 |  | 90.1% |  | 79.3% |  |
|  |  | 201350 | Summer 2013 | 1 |  | 91.3% |  | 91.3% |  |
|  |  | **Annual Yr Sum** | | **14** |  | **91.0%** |  | **82.4%** |  |
|  | **2012-2013** | 201330 | Spring 2013 | 6 |  | 96.4% |  | 90.7% |  |
|  |  | 201270 | Fall 2012 | 6 |  | 88.8% |  | 81.6% |  |
|  |  | 201250 | Summer 2012 | 1 |  | 91.7% |  | 91.7% |  |
|  |  | **Annual Yr Sum** | | **13** |  | **92.7%** |  | **86.9%** |  |
|  | **2011-2012** | 201230 | Spring 2012 | 6 |  | 93.4% |  | 89.8% |  |
|  |  | 201170 | Fall 2011 | 6 |  | 94.4% |  | 85.7% |  |
|  |  | 201150 | Summer 2011 | 1 |  | 92.0% |  | 72.0% |  |
|  |  | **Annual Yr Sum** | | **13** |  | **93.8%** |  | **86.5%** |  |
|  | **2010-2011** | 201130 | Spring 2011 | 6 |  | 91.7% |  | 84.1% |  |
|  |  | 201070 | Fall 2010 | 6 |  | 88.7% |  | 83.1% |  |
|  |  | 201050 | Summer 2010 | 1 |  | 69.6% |  | 52.2% |  |
|  |  | **Annual Yr Sum** | | **13** |  | **88.5%** |  | **81.0%** |  |
| **Unit Totals** |  |  |  | **2,004** | **175** | **85.6%** | **75.6%** | **68.1%** | **39.2%** |

Since mathematics impacts nearly every student at BC, the success rates for traditional lecture courses has been a focus of concern for years. The success rates of all mathematics lecture courses has somewhat improved over the past 5 years to 55.9%, with the highest success rates occurring for the shortened Summer session courses at 66.6%.

The mathematics courses taught as distance education courses mostly consist of sections that meet through the Math Learning Center. These sections have dramatically lagged in success rates, with the last academic year being 40.8%. This 15.1% difference in lecture to distance education modalities for these courses needs serious attention and determination of causality.

Of additional concern are the low success rates in the astronomy courses. A careful analysis of how students are not being successful in these courses should be accomplished as soon as possible.

For the entire College in the 2014-2015 AY, the retention rate was 86.0% and the success rate was 68.7%. In total, the instructional unit’s retention rate (85.1%) and success rate (58.7%) are lower, predominantly from the disciplines noted above. Other disciplines were in alignment with the College averages.

1. Changes in the achievement gap and disproportionate impact (Equity).

Using the latest Achieve the Dream data, disproportionate impact continues for African American and Native American students in mathematics. Some improvements have been seen for the Hispanic population, except male students, who lag behind in successfully completing developmental mathematics courses. The mathematics department is working with the Equity Committee to find new solutions to this continuing issue.

1. Other program-specific data that reflects significant changes *(please specify or attach).* All Student Affairs and Administrative Services should respond.

**IV. Program Assessment (focus on most recent year):**

1. How did your outcomes assessment results inform your program planning? Use bullet points to organize your response.

* Math faculty have standardized how SLO’s are measured to ensure comparability of outcomes.
* Chemistry faculty have started to incorporate new teaching techniques, such as “flipped classrooms” to improve outcomes.

1. How did your outcomes assessment results inform your resource requests? The results should support and justify resource requests.

* An increase in student enrollment in courses generally for chemistry majors is taxing resources.
* Math faculty have increased the use of technology to give students more ways to learn and succeed at mathematics, requiring more IT and instructional supplies.
* The demand for Anatomy & Physiology courses is pushing up the need to replace worn models and fix or replace microscopes.

1. How do course level student learning outcomes align with program learning outcomes? Instructional programs can combine questions C and D for one response (SLO/PLO/ILO).

* Biology have aligned these requirements, and mathematics faculty are completing these alignments this academic year.

1. How do the program learning outcomes or Administrative Unit Outcomes align with Institutional Learning Outcomes? All Student Affairs and Administrative Services should respond.

**Institutional Learning Outcomes** and *Administrative Unit Outcomes*

Think critically and evaluate sources and information for validity and usefulness.

* *Manage the faculty evaluation and improvement process.*
* *Facilitate the evaluation of current and the development of new academic programs and courses.*

Communicate effectively in both written and oral forms.

* *Implement and monitor mechanisms that facilitate communication within the unit and college–wide.*

Demonstrate competency in a field of knowledge or with job-related skills.

* *Develop and manage a budget that supports the needs of the unit while maintaining the financial integrity of the college.*

Engage productively in all levels of society – interpersonal, community, the state and the nation, and the world

* *Create and sustain an environment that fosters positive customer service experiences.*

1. Describe *any significant changes* in your program’s strengths since last year.

* Chemistry AS-T was submitted for State approval.
* Approximately, 130 MESA students were supported, and more were counted as “pre-MESA” to keep them involved with STEM programs.
* CHEM B1A Chemistry I was added to the courses offered at the Delano College Center.
* The Geography “showcase laboratory” was completed, allowing multimedia classroom instruction to be integrated with the laboratory practical experiments.
* The mathematics department completed the governance submission of MATH B65, which is a combined MATH B60 and B70 pathway that allows non-STEM students to complete these courses tailored to taking MATH B22, Statistics, as there transfer-level mathematics course.
* The STEM grant was used to purchase modern chemical instruments commonly found in UC sophomore courses but not commonly found in community colleges.

1. Describe *any significant changes* in your program’s weaknesses since last year.

* Weaknesses are continuing with developmental mathematics courses, especially those taught as distance education.

1. If applicable, describe any unplanned events that affected your program.

**V. Assess Your Program’s Resource Needs:** To request resources (staff, faculty, technology, equipment, budget, and facilities), please fill out the appropriate form. <https://committees.kccd.edu/bc/committee/programreview>

1. Human Resources and Professional Development:
2. If you are requesting any additional positions, explain briefly how the additional positions will contribute to increased student success. Include upcoming retirements or open positions that need to be filled.

Please see individual instructional program reports for details.

Priority requests for new fulltime faculty for the unit are as follows.

1. Request from the math department for a replacement tenure-track faculty member. This will help reduced the largest waitlists in the College, where in the Fall 2015 semester at census, 806 students were left unserved on the waitlists for mathematics courses. Additionally, having more faculty to teach face-to-face courses will reduce the students who are taking the distance education modality as a last resort and ending with the lowest success rate in the College.
2. Request from the chemistry program to replace the current temporary fulltime faculty with a tenure-track faculty member. This would not increase faculty headcount where the need to serve students is already not completely being met with 209 students on the Fall 2015 census waitlist. Loss of this fulltime position with increase this situation and may lead to BC not meeting other obligations.
3. Request from the biology department for a new tenure-track faculty member. The biology courses at BC have one of the highest waitlists with 380 this Fall 2015 semester. Students can wait for a year or longer before getting into biology courses, and this is negatively impacting the progression of biology majors, nursing majors, and allied health majors through their programs of study.
4. Request from the math department for a temporary 1-year fulltime faculty member.
5. Request from the chemistry program for a second fulltime tenure-track faculty member to better support expanding courses at Delano.
6. Request from the geology program for a tenure-track faculty member. The College needs to expand geology, which is an AA-T program, and geography. These two areas of study are directly connected to the energy and land-use industries in our area.
7. Request from the chemistry department for a third fulltime tenure-track faculty member.

Priority requests for new classified positions for the unit are as follows.

1. Request from the biology department for a laboratory technician position at Delano to support current courses and allow for expansion of sciences at Delano.
2. Request from the mathematics department for increased classified hours in the Math Learning Center to handle the large amount of student usage of that resource.
3. Request from the biology department for a 12 year contract instead of a 10 year contract position for the Main campus laboratory technician.
4. Professional Development:
5. Describe briefly the effectiveness of the professional development your program has been engaged in (either providing or attending) during the last year, focusing on how it contributed to student success.

* Kurt Klopstein, Donna Star, and Regina Hukil have been participating in the CAP institute training which helped prepare the department to teach our new accelerated course, Math B65 Intermediate Algebra for Statistics. Thus far, they have attended two sessions, and planned on going to a spring session. The implementation of this course will help non-STEM major students complete the algebra sequence to statistics in one semester instead of two.
* Li Kang Liu attended the 2015 Conference on Acceleration in Developmental Education in Costa Mesa, CA, June 24-26, 2015. The purpose was to see how the other colleges around the country conducted their acceleration on developmental education. Compared to many colleges, we have already taken more steps to accelerate math students at BC.
* Chemistry faculty who attended both the statewide Great Teachers Seminar and the American Chemical Society's Biennial Conference for Chemical Educators have returned significantly rejuvenated, with an expressed renewed passion for their work. Ideas germane specifically for our students flooded in from the BCCE, and have been expressed both in material purchases made for the courses (incorporation of technological advances in lab techniques) and in pedagogical advances/changes. The GTS attendee reported a renewal of energy based on the general discussions revolving about the classroom environment. Both of these conferences are at the top of the list now for people to attend.
* Faculty have participated in Week Zero events and actively promote Habits of Mind in all courses.

1. What professional development opportunities and contributions can your program make to the college in the future?

* The departments are actively planning how to promote math and science across the campus.
* Over this academic year, faculty will organize sessions on how to use computers more effectively in teaching math and science.

1. Facilities:
2. How have facilities’ maintenance, repair or updating affected your program in the past year as it relates to student success?

* Improvement some of the lecture classrooms in the SE building have improved student space in these rooms, making them more conducive to learning. SE-48 has become the most sought after lecture room in the building.
* Improvements to the Geography Laboratory have made this space more useful for teaching geography, but the advanced technology also makes this room potentially useful for teaching more mathematics courses in a new and more effective way.

1. How will your Facilities Request for next year contribute to student success?

* It is critical that lecture rooms and especially laboratories be appropriate places for student learning in a safe way.

C. Technology and Equipment:

1. Understanding that some programs teach in multiple classrooms, how has new, repurposed or existing technology or equipment affected your program in the past year as it relates to student success?

* Improvements to lecture rooms with Bright Link systems have improved mathematics instruction, allowing for clear presentations that can be saved and shared with students.

1. How will your new or repurposed classroom, office technology and/or equipment request contribute to student success?

* Classrooms with more technology provide the faculty with the flexibility to connect students with materials and learning techniques that they can use outside of the classroom with online resources.

1. Discuss the effectiveness of technology used in your area to meet college strategic goals.

* This is critical for improving student learning (goal 1) and student progression and completion (goal 2), as student expectations of how their learning needs should be met.

D. Budget: Explain how your budget justifications will contribute to increased student success for your program.

* Increases in budget requests are tied to improving the availability of more sections of courses and the replacement/repair of broken equipment. This are minor increases that will ensure that we can provide laboratory students with individual practical experience and lecture students with appropriate materials. Additionally, the goal of math and sciences is to increase instruction at Delano, which will increase the travel and materials costs for the departments.

**VI. Conclusions and Findings:**

Present any conclusions and findings about the program. This is an opportunity to provide a brief abstract/synopsis of your program’s current circumstances and needs.

The College has improved on serving students in math and science courses, but issues in availability of enough sections of courses and alignment of instruction to meet student learning needs are perpetual issues that need to be addressed in a comprehensive and objective fashion. All factors that impact these issues must be determined, thoughtfully analyzed, and improved. Clearly, the number of qualified faculty need to be increased, but even with the approval of the faculty requests in this annual update are not sufficient, and a concerted effort to find adjunct faculty for these programs is acute.

Additionally, hosting educational symposium and conferences in the program areas, especially developmental mathematics, may support renewed energy to explore new instructional technologies and techniques. This will be more important in the near term than increasing the number of online courses, when the demand for face-to-face courses is not being effectively met. Instead, the programs should start to build true hybrid courses that may prove to have higher success rates and lower classroom demands.

No Saturday courses are offered in these programs, excluding a working population from the opportunity to complete an entire program of study through weekend classes. Support for such courses should be determined and acted upon.

**VII. Forms Checklist (place a checkmark beside the forms listed below that are submitted as part of the Annual Update):**

**X**  [Best Practices Form](http://committees.kccd.edu/bc/committee/programreview) **(Required)**

Curricular Review Form **(Instructional Programs Required)**

[Certificate Form](http://committees.kccd.edu/bc/committee/programreview) **(CTE Programs** **Required)**

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[Faculty Request Form](http://committees.kccd.edu/bc/committee/programreview)  [Classified Request Form](http://committees.kccd.edu/bc/committee/programreview) X [Budget Form](http://committees.kccd.edu/bc/committee/programreview)

Professional Development Form  [ISIT Form](http://committees.kccd.edu/bc/committee/programreview)  [Facilities Form](http://committees.kccd.edu/bc/committee/programreview) (Includes Equipment)

Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_