Bakersfield College
Program Review – Annual Update

Program Name: Office of the Dean (Mathematics, Sciences)

Program Type: ☐ Instructional   ☐ Student Affairs   ☒ Administrative Service   ☐ Other

> ***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. Basic skills courses mathematics course within the unit especially provide a pathway for underprepared students to rapidly advance to transfer-level courses.

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, including acceleration of under-prepared students into college-level mathematics courses.
- 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.

Instructional Programs only:
   A. List the degrees and Certificates of Achievement the program offers
   B. If your program offers both an A.A. and an A.S. degree in the same subject, please explain the rationale for offering both and the difference between the two.
   C. If your program offers a local degree in addition to the ADT degree, please explain the rationale for offering both.

Progress on Program Goals:

A. 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. Please provide an action plan for each goal that gives the steps to completing the goal and the timeline.

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)	Status Update – Action Plan
1. Evaluate and update pre-collegiate curriculum.	☒ 1: Student Learning ☐ 2: Student Progression and Completion ☐ 3: Facilities ☐ 4: Oversight and Accountability ☐ 5: Leadership and Engagement	☒ Completed: _1/20/2017__ (Date) ☐ Revised: _____ (Date) ☐ Ongoing: _____ (Date)	MATH B65 as an accelerated route to transfer-level statistics was scaled to meet the needs of non-STEM students.
2. Develop a variety of summer bridge options.	☒ 1: Student Learning ☐ 2: Student Progression and Completion ☐ 3: Facilities ☐ 4: Oversight and Accountability ☐ 5: Leadership and Engagement	☒ Completed: _5/15/2017_ (Date) ☐ Revised: _____ (Date) ☐ Ongoing: _____ (Date)	ACDV B5 was scaled to meet the needs of 1000 incoming students. This goal has been moved to another unit for Summer 2018.
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)	Math is continuing to offer learning community courses, and will be expanding these to college-level courses during this academic year.
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.
5. Develop and manage a budget that	☐ 1: Student Learning ☐ 2: Student Progression and Completion	☒ Completed: _____ (Date) ☐ Revised: _____ (Date)	The office has submitted a budget that matches growth and instructional

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supports the needs of the unit while maintaining the financial integrity of the college.	**X** 3: Facilities ☐ 4: Oversight and Accountability ☐ 5: Leadership and Engagement	☐ Ongoing: _____ (Date)	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.
6. 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: _8/21/16___ (Date) ☐ Revised: _____ (Date) ☐ Ongoing: _____ (Date)	The office obtained a $1.5M State grant to support the creation and expansion of Basic Skills Extend the Classroom academic support for students in ACDV B72, MATH B60/70, and ENGL B53 in the 2016-17 academic year. Administration of this was moved to another unit.
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: _11/28/16_ (Date) ☐ Revised: _____ (Date) ☐ Ongoing: _____ (Date)	The chemistry and biology AS-T programs were approved at the State Chancellor's office. The Biology curriculum is being updated to create an additional program that is solely the Human Biology AS degree.

B. 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)	Status Update – Action Plan
Replace goal 2 with. Develop a variety on online science course options to support general education requirements.	☒ 1: Student Learning ☐ 2: Student Progression and Completion ☐ 3: Facilities ☐ 4: Oversight and Accountability ☐ 5: Leadership and Engagement	Develop online courses in Geology, Astronomy, and Physics.
Replace goal 6 with Increase student retention and persistence.	☐ 1: Student Learning ☒ 2: Student Progression and Completion ☐ 3: Facilities ☐ 4: Oversight and Accountability ☐ 5: Leadership and Engagement	Use increased faculty communication with students and weekly reminders to keep students on their path.
Replace goal 7 with Get approval for a new AS-T in Environmental Science.	☐ 1: Student Learning ☒ 2: Student Progression and Completion ☐ 3: Facilities	This requires the development of a new Environment course in the Biology department and submission of the program to the Board and State.

	4: Oversight and Accountability ☐ 5: Leadership and Engagement	
Add goal 8 Develop plans for the 1st phase of a new Science and Engineering building.	☐ 1: Student Learning ☐ 2: Student Progression and Completion ☒ 3: Facilities ☐ 4: Oversight and Accountability ☐ 5: Leadership and Engagement	Work with faculty, M&O and the EAComm group to detail plans for final approval for this new building.

Best Practices:

Programs often do something particularly well; usually they have learned through assessment – sometimes trial and error – what solves a problem or makes their programs work so well. These are often called Best Practices and can help others. Please share the practices your program has found to be effective.
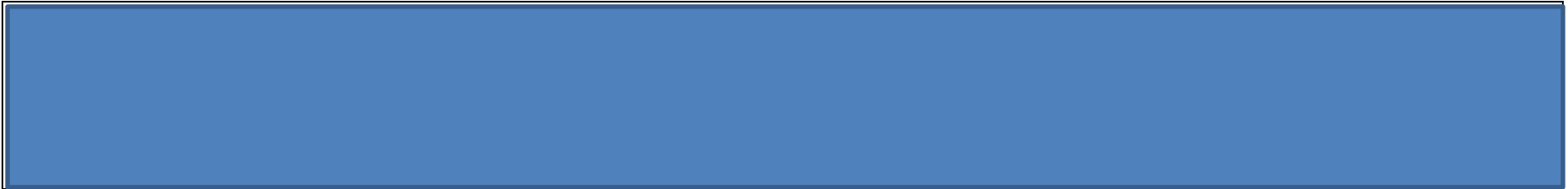
Program Analysis:

Take a look at your trend data (all programs should have some form of data that is used to look at changes over time).

1. Please report on any unexpected changes or challenges that your program encountered this cycle:
   Enrollment in courses in this unit are directly impacted by the availability of faculty. To address this, 13 new adjuncts were hired through the year and 13 new fulltime faculty were hired. This has improved the FTEF available, but it is still not needing the course needs that impact all degree seeking students in the College.

2. How does your trend data impact your decision making process for your program?
   Not only did continuing large waitlists drive the hiring of new faculty through the year, but also a rapid growth in the number of students in majors in the unit also indicated a need for more faculty. Each program saw year-over-year growth of 10-47% in students declaring these majors.

3. Were there any changes to student success and retention for face-to-face, as well as online/distance courses?
   A significant increase in student success was seen with the accelerated MATH B65 course being offered last year. This course had success rates from 60% to 67% during the last academic year, outpacing MATH B60 and B70 by ~10-12%. This means that students in MATH B65 can reach a college-level statistics course with an overall success rate that is nearly triple that of students taking the 2 semester MATH B60 and B70 pathway. However, data from students who passed MATH B65 in Fall 2016 show that only 43% have attempted their college-level statistics course after 1 year. This is concerning and defeats the expectations rapid completion of math for these students.

4. Were there any changes to student demographics (age, gender, or ethnicity) for the past cycle?
   No significant changes.

Resource Request and Analysis:

Resource Request		If Fulfilled, Discuss How Previous Year's Requests Impact Program Effectiveness?
Positions: *Discuss the impact new and/or replacement faculty and/or staff had on your program's effectiveness.*	☒ 1: Classified Staff ☒ 2: Faculty	The unit hired a new fulltime Lab Tech I for Delano, which is allowing for a nearly doubling of lab-based science courses in Delano. The unit hired 11 new fulltime faculty and 2 new temporary fulltime faculty. This has led to the following annual increases in Fall 2017 census FTES by discipline. Math **+ 5%** (743 FTES, estimated based on late start enrollments) Biology **+ 10%** (273 FTES, not including additional dual enrollment) Chemistry **+ 16%** (174 FTES) Physics **+ 48%** (59 FTES, not including additional dual enrollment) Geology **+ 18%** (48 FTES) Earth Science **+ 17%** (46 FTES) Geography **+ 33%** (45 FTES) Physical Science **+ 29%** (19 FTES) Astronomy **+ 27%** (17 FTES)
Professional Development: *Describe briefly, the effectiveness of the professional development your program has been engaged in (either providing or attending) during the last cycle*	☒ 1: Provided Professional Development ☒ 2: Attended Professional Development	In 2016-17 academic year, the Dean provided Excel workshops that were open to the college and a staff retreat that included some Excel training. In 2016-17 academic year, the Dean attended several AACC and California Guided Pathways workshops in Denver, CO and in California. This provided support to continue improvements in Basic Skills math courses.

Facilities: *If your program received a building remodel or renovation, additional furniture or beyond routine maintenance, please explain how this request or requests impacts your program and helps contribute to student success.*	☐ 1: Space Allocation ☐ 2: Renovation ☐ 3: Furniture ☐ 4: Other ☐ 5: Beyond Routine Maintenance	
Technology: *If your program received technology (audio/visual – projectors, TV's, document cameras) and computers, how does the technology impact your program and help contribute to student success?*	☐ 1: Replacement Technology ☐ 2: New Technology ☐ 3: Software ☐ 4: Other_____	
Resource Request		**Discuss How Effective Request is for Student Success?**
Other Equipment: *If your program received equipment that is not considered audio/visual or computer equipment technology, please explain how these resources impact your program and help contribute to student success.*	☐ 1: Replacement ☒ 2: New ☐ 3: Other_____	The unit used grant funds from Strong Workforce and other grants to purchase new equipment needed to expand laboratory course offerings in Biology (especially B32 and B33 Anatomy & Physiology), Physics and Chemistry.
Budget: *Explain how your budget justifications will contribute to increased student success for your program.* (*Fiscal requests will be submitted by the*		The budget request will directly impact the ability of the College to sustain the increases in enrollments in Biology and Physical Sciences. The Physics program has been operating with no laboratory budget for many years, and with an increase in these courses, new equipment needs to be purchased. Biology continues to have limited laboratory experiences for students that need to be upgraded to match the rigor and learning expected of these courses, so it needs to have a budget that reflects that support.

faculty chair and/or area administrator.)		

Conclusions & Snapshot:

Present any conclusions and findings about the program. This is an opportunity to provide a brief abstract or synopsis of your program's current circumstances and needs. Consider this a snapshot of your program, if someone were to only read this portion of your annual program review.

Student interest in Science and Math majors at Bakersfield College is outpacing the growth of the College. New students are attracted to STEM programs from the increased instruction at our local high schools. Additionally, enrollments in these courses simply increase proportional to the availability of faculty and instructional resources, because these courses are need by all majors in the College and have been under-staffed and under-funded for years. Doubling the number of sections offered in this unit will translate to doubling the enrollment and still have waitlists based on the trend data. This makes offering these courses critical to the College, and having the right resources necessary to support increased student retention, success, and persistence.