Notesnew student seating, Bakersfield College 2018-2019
Program Review – Annual Update

Program Name: Human Biology

***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:

Following the Bakersfield College Mission, the Biological Science Department provides courses and programs that support the needs of the diverse Bakersfield College student population. The Human Biology AS program provides students with the opportunity to obtain scientific knowledge as the foundation to transfer to a wide variety of Baccalaureate Health Science programs. Human Biology is the study and application of principles of cell biology, genetics, and anatomy and physiology as it relates to humans. Laboratory and field trip activities emphasize the integration and collaboration of medical professionals. Course work trains students to use observation and investigation to identify questions and pursue answers using the scientific method.

Graduates with an AS in Human Biology may pursue jobs in a variety of fields including; registered nursing, vocational nursing, paramedic, public health, radiology technology, kinesiology, health information systems, microbiology and related clinical fields.

All biology courses emphasize critical thinking and writing. This is accomplished with skill-building laboratories, field trips, discussions, and didactic teaching. The Department's teaching styles and curriculum development support the College's Strategic Directions. The Biological Science Department continues to use Student Learning Outcomes and assessment tools to align academic pathways Program Learning Outcomes, Institutional Learning Outcomes and for transfer to 4-year colleges/universities.

Instructional Programs only:

A. List the degrees and Certificates of Achievement the program offers
    - Human Biology A.S.
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.
    - N/A
C. If your program offers a local degree in addition to the ADT degree, please explain the rationale for offering both.
    - N/A

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.

1. **Program Goal:** Replacement Biology Faculty members (Impending faculty retirements)

   List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?
   (Student Learning, Student Progression and Completion, Facilities, Leadership and Engagement)
   - Student Learning
   - Student Progression and Completion

   Progress on goal achievement:
   - Initial request for impending retirement of Janet Fulks and Patrick Fulks

   Status Update – Action Plan and any link to Resource Requests:
   - Biology courses are in extremely high demand. We anticipate the retirement of two FT Biology Instructors. The replacement for retiring FT faculty Biology faculty members is critical to providing access to students interested in completing their Biology AS-T (Including Renegade Promise and Finish in 4).

2. **Program Goal:** Increase Lab Tech position from 10 month to 12 month position

   List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?
   (1. Student Learning, 2. Student Progression and Completion, 3. Facilities, 4. Leadership and Engagement)
   - Student Learning
   - Student Progression and Completion

   Progress on goal achievement:
   - This has been an ongoing request since 2013/14

   Status Update – Action Plan and link to Resource Requests
   - Biology courses require significant ordering, classroom, inventory and laboratory support. The increase of a lab technician from 10 to 12 months provides support for additional courses and as well as summer course offerings on the BC Main campus.

B. List new or revised goals (if applicable)

   Program Goal: Increased Departmental Budget to Support Increased Course Offerings at BC Southwest and Delano Center

   List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?
   (Student Learning, Student Progression and Completion, Facilities, Leadership and Engagement)
   - Student Learning
   - Student Progression and Completion

   Progress on goal achievement:

- This is our initial request for anatomical models, equipment and supplies to fully equip an Anatomy/Physiology laboratory at the BC Southwest Campus and the Delano Science Center

Status Update – Action Plan and link to Resource Requests:

- Additional funds are required to support the BC Southwest Campus and the Delano Science Center. Biology faculty are resourceful and always place student success as a priority. Biology faculty offer lecture class packs, written their own lab manuals to provide student's text material for free (i.e. Openstax) or at a very reasonable price and meet the Biology's Department's PLOs. Our SLOs and PLOs continue to reveal a deficiency in departmental financial support. Biology courses rely heavily and molecular models, equipment, chemicals and solutions. The 2017-18 budget provided only $10.33 per student. (2226 students/$23,000)
- The Biology Department has been fortunate to purchase several new and replacement models and a set of microscopes from several campus grants (i.e.Strong Work Force and the BC Foundation). Unfortunately, these grants do not have the ability to equip an entire laboratory.

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). *All programs will answer the following questions unless otherwise indicated.*

1. Please report on any unexpected changes or challenges that your program encountered this cycle:
   - The BC Biology Department's student headcount has increased by 23.2% since 2013/14 (1807 -> 2226 students)
   - BC Campus Transfer Initiatives; AS-T, Renegade Promise and Finish in 4
   - 65% Biology students have a Comprehensive/Abbreviated Ed Plan (College wide 35%)
   - 95% Biology students are fully matriculated (College wide 68%)
   - Students majoring in General Biology has increase 40.1% since Fall 2014 (396 -> 558 students)
   - Course offerings have increased 17.6% since Fall 2013 (91 -> 107)
   - Students/Section =25 in 2017-18 (Biology Max Capacity is 24)
   - 25.7% Increase in FTEs since Fall 2013

2. How does your trend data (or other data your area collects) impact your decision making process for your program?
   - Trend data reveals an increase in student headcount, course offerings and FTES since Fall 2013. Although we had three adjuncts in 2017-18 (an all-time high), the increase was achieved primarily by FT faculty teaching overload and adding students from the waitlist over the class maximum.
   - Consequently, the Biology program's goals of Replacement Faculty, Increased Lab Technician Support and Increased Departmental Budget to Fully are reflective of the Biology trend data.

3. Evidence of Department Dialog of data
   - If you have had time to review and discuss your program's data with members of your department, attach documentation of your discussion. Documentation can come in the form of minutes from meetings or retreats, email dialog or any other ways that show substantive discussion.
     - *Please **see Attachment** of 2017/18 Department Meeting Agendas and Notes*

4. Were there any changes to student demographics (age, gender, or ethnicity) for the past cycle?
   - There were no significant changes in student demographics

5. Were there any changes to student success and retention rates for face-to-face and online courses? (instructional only)

- All Biology courses are face-to-face

6. Equity gaps
    - Please look for large differences, or gaps, between top performing groups and others. Consider how you could identify the reasons behind these gaps, and if there changes that could be made to reduce them. For in depth review of equity issues, and on changes that are being made campus-wide, please refer to the current Bakersfield College Student Equity Plan.
        - There is no significant difference in Retention/Success rates between Biology students and overall student body regarding Ethnicity and Gender

7. Please describe any recent achievements of your department, including but not limited to faculty who have won awards or distinctions, new projects your department has implemented, professional development work, professional conference presentations or recently published work.
    - Andrea Garrison was awarded the Shirley Trembly Award
    - Joe Saldivar was awarded a Norm Levan Summer Research Grant
    - "Be The Match" Bone Marrow Registration and Tissue Donation Drive
    - 2017/18 Distinguished Speaker Series – "Redefining Success" Ms. Orubba Almansouri;
    - Medical School Visitations; UCLA Geffen School of Medicine and Keck School of Medicine
    - Kern Medical Center - Emergency Medical Research Assistant Program (Student Internships)
    - Renegade Talks 2018; "Smooth Endoplasmic Reticulum; A Fork in the Academic Road"
    - 2nd Annual STEM Pre-Health Conference
    - Pi Day Celebration

8. The college has embarked on significant efforts such **as Guided Pathways, affinity groups** and **completion coaching communities** to improve the success and completion rates of our students. Please describe what your program/department/office is doing to contribute to these efforts.
    - Biology faculty are active participants in…
        i. STEM and Health Sciences affinity groups
        ii. STEM Completion Coaching
        iii. Summer Bridge
        iv. S.I.
        v. A+ Scholars

9. Explain your role if you are involved in Dual Enrollment, Inmate Education, or Rural Initiatives.
    - The BC Biology Department does not currently offer any Human Biology Program courses as Dual Enrollment, Inmate Education or through Rural Initiatives. The limiting factor is funding to fully equip an Anatomy/Physiology laboratory.

Analysis of Received Resources from Previous Cycle

Discuss the type of resources you received and their Impact on program effectiveness?

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.

- Student seating in SE Lecture Rooms; Student's seats and desks were replaced with more comfortable, light weight chairs and pull-up desks. This provides more seating, a safer student environment for a better educational experience for both faculty and the students.

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?

- Upgraded Document Cameras in SE-30, 31, 37 and 38; Document Cameras have been replaced with upgraded document cameras that provide faculty the opportunity to display notes and models. The cameras have the capability to zoom and focus on critical locations of biological and anatomical models. This allows a more efficient method of discussing biological concepts.

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.

- N/A

Conclusion:

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.

The BC Biology Department approaches the study of Biology with cutting edge technology and content. The courses emphasize hands on learning and high quality, effective teaching strategies. Field work and real-life applications of science are highly valued as an important component for all students whether targeting transfer, workforce, or general science education.

The BC Biology Department is positioned to meet Bakersfield College's vision Guided Pathways; Clarify the Path (Biology AS-T & Finish in 4), Enter the Path (Increased course offerings), Stay on the Path (i.e. S.I., MESA, STEM Aera Center, Library Workshops…) and Ensure Learning (Faculty mentoring, student internships and field trips). We require an increased department budget, increased laboratory tech support and replacement faculty to accomplish these goals.

- "According to research, careers in science, technology, engineering and math (STEM) are growing 2-3 times faster than any other career field. Bakersfield College's effort to increase student participation and success in STEM careers is apparent in many of our efforts on campus and in the community (HerWorld)." – President Sonya Christian, Bakersfield College President's Blog; http://bcpresident.wordpress.com/

Lastly, we truly believe that the BC Biology Department is the "Best Department" on campus. Student success is the driving force behind all our departmental decisions.