

# Bakersfield College

## Comprehensive Program Review - 2017

### Program Information:

Program Name: **Radiologic Technology**

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:

One of the three primary tenets of the Bakersfield College mission is to provide excellent learning opportunities in Career and Technical Education (CTE) for our community which permits students to thrive in our local workforce and KCCD service area.

The Radiologic Technology Program meets this primary mission by providing an educational opportunity within the Health Services Career Pathway and by program completers earning the Associate in Science degree. The program meets the critical community need in Kern County for workforce training of entry-level licensed radiologic technologists and by providing two job skill certificates (JSC) in fluoroscopy and venipuncture. The college mission is reinforced in the Program's learning outcomes and goals.

Program Mission Statement:

The mission of the Bakersfield College Associate in Science Degree Radiologic Technology Program is to promote student success by providing quality instruction for graduates to competently practice radiography at the entry level.

### ***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, Future Goals, and Action Plans:**

- 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 goals, please duplicate this section.

Current Program Goals	Which institutional goals from the 2015-2018 Strategic Directions for Bakersfield College will be advanced upon completion of this goal? (select all that apply)	Progress on goal achievement (choose one)	Comments
1. Continue Programmatic Accreditation with JRCERT and State CDPH-RHB	<input checked="" type="checkbox"/> 1: Student Learning <input checked="" type="checkbox"/> 2: Student Progression and Completion <input type="checkbox"/> 3: Facilities <input type="checkbox"/> 4: Oversight and Accountability <input checked="" type="checkbox"/> 5: Leadership and Engagement	<input type="checkbox"/> Completed: _____ (Date) <input type="checkbox"/> Revised: _____ (Date) <input checked="" type="checkbox"/> Ongoing: JRCERT site visit Nov 2016; State CDPH-RHB Equipment Inspection Nov 2016; continuing programmatic accreditation is an on-going goal of the program	JRCERT awarded the program a full 8-year, unrestricted, continuing accreditation award in spring 2017 which is the highest accreditation award given. CDPH-RHB equipment inspection yielded full compliance with no violations with CCR Title 17 State regulations.
2. Develop Learning Activities and Methodologies utilizing the new radiographic & fluoroscopic equipment installed in summer 2015	<input checked="" type="checkbox"/> 1: Student Learning <input checked="" type="checkbox"/> 2: Student Progression and Completion <input checked="" type="checkbox"/> 3: Facilities <input type="checkbox"/> 4: Oversight and Accountability <input type="checkbox"/> 5: Leadership and Engagement	<input type="checkbox"/> Completed: _____ (Date) <input type="checkbox"/> Revised: _____ (Date) <input checked="" type="checkbox"/> Ongoing: Fall 2017- Spring 2019	Lab activities were revised to include current technologies into the lab with digital equipment. As the faculty has/will have retirements from 2016 through 2018, this revision will continue with new faculty teaching lab courses. Revisions will be to include greater implementation of Canvas, use of electronic x-ray images for labs to reduce the use of x-ray film and advanced use of technology such as specific Apps for the discipline.

B. List the program’s goals for the next three years. Ensure that stated goals are specific and measurable. State how each program goal supports the College’s strategic goals. Each program must include an action plan.

Future Goals	Which institutional goals from the 2015-2018 Strategic Directions for Bakersfield College will be advanced upon completion of this goal? (select all that apply)	Action Plan	Timeline for Completion	Lead person for this goal
1. Fully implement Trajecsys on-line clinical education reporting system which began in May 2017.	<input checked="" type="checkbox"/> 1: Student Learning <input checked="" type="checkbox"/> 2: Student Progression and Completion <input type="checkbox"/> 3: Facilities <input type="checkbox"/> 4: Oversight and Accountability <input type="checkbox"/> 5: Leadership and Engagement	Continue to streamline on-line system with inclusion of additional clinical evaluation tools, course and program surveys. Continue training of faculty with webinars, and training of Clinical Partners and students. Develop Trajecsys procedure and user manual for faculty, Clinical Instructors and Students.	Fall 2017 through Spring 2019	Jacy Hill and Nancy Perkins
2. Implementation of new educational technologies/methodologies for student engagement in lecture and lab.	<input type="checkbox"/> 1: Student Learning <input checked="" type="checkbox"/> 2: Student Progression and Completion <input type="checkbox"/> 3: Facilities <input type="checkbox"/> 4: Oversight and Accountability <input checked="" type="checkbox"/> 5: Leadership and Engagement	Canvas: Class discussion boards, quizzes, accessory study materials, improved planning through calendar use. Additional technologies to facilitate flipped classroom activities, virtual radiography software, interactive scenarios between nursing/radiologic technology and simulation.	Spring 2018 through 2020	All program faculty

**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.

The Radiologic Technology program worked with the Allied Health Educational Advisor to develop a Pre-Program Orientation which was held in December 2016. This pre-orientation workshop reached out to pre-rad tech majors and over 80 individuals attended. Attendees consisted of BC students, high school students and community members. The meeting reviewed program prerequisites, application procedures, career information, program costs and expectations. Time management and job search assistance was

also previewed. This workshop supports the implementation of Guided Pathways on campus. This will be an annual event and will include current BC radiologic technology students, faculty and the educational advisor.

### **3 Year Program Analysis:**

Take a look at your trend data. Provide an analysis of program data throughout the last three years (all programs should have some form of data that is used to look at changes over time) and report:

1. Changes in student demographics (gender, age and ethnicity).

Program demographics indicate that the female population ranged from 60-76% from 2011-2012 to 2015-2016 academic years. The male population varied from 24-40% from 2011-2012 to 2015-2016. The demographics for the program consistently demonstrate a somewhat disproportionate rate compared with the college as college-wide population. College-wide data for 2015-2016 state there are 54% females/45% males (these numbers do not equal 100% but the trend data reports this). Age demographics indicate that the program percentage of females enrolled is higher than the BC student population while male population is lower. This data does match workforce demographics for radiologic technology.

The highest population of students at the college for 2015-2016 is the 20-29 age range (51%) and this is also the highest population of students within the program (47% for 2015-2016). One major difference in program statistics vs. college statistics is that the program has 0% of its student population from age 19 & under while the college average for the past year is 28%. Another major difference in program statistics vs. college statistics is that the program has an older age population with 33% of students in the 30-39 age range while the college average is 13%. The most likely rationale for this is that the program has 1 year of prerequisites to complete prior to applying for program entry as well as a 2 year wait-list to enter the program once program prerequisites are met.

Program ethnicity somewhat mirrors college data with Hispanics/Latinos representing the largest group of students. This population was lower for the program at 51% while the college was 66% for 2015-2016. The percentage of white students for the program is 11% higher than the college (33% compared to 22%) for this past year. The African American population enrolled in the program for 2015-2016 was the same as the college at 4% but in previous years varied between 0-4%. The Asian/Filipino/Pacific Islander population for the program is higher than the college average for 2015-2016 with 9% compared to 4%. The program needs to continue to engage with the college educational advisors/counselors and special population groups on campus (Veteran's, African American males, SGA and others) to explore the radiography career while also continuing to participate in outreach activities with high school students and various career days. In 2016-2017, the Radiologic Technology faculty participated in the CTE Allied Health career day and the SGA career day to promote student access for all demographics. One new recruitment avenue for 2016-2017 was the development of a Pre-Rad Tech Orientation meeting that was coordinated between the program director and Allied Health educational advisor. The goal of this meeting was to ensure that program prerequisites and enrollment procedures were reviewed with students that identified their major as the 122500 TOPS code. Changes for 2017-2018 with this new orientation meeting would be to expand program faculty and program student involvement. This would assist and guide students in the correct program selection and educational pathway as outlined by the Health Sciences Pathway at BC.

2. Changes in enrollment (headcount, sections, course enrollment, and productivity).

Program course enrollment remained stable from 2011/2012 to 2015/2016 on its number of sections (18) and number of students/section (varied from 20-22) for face-to face classes. There are no on-line courses for the program.

The program demonstrated lower subject productivity from 2011/2012-to 2015/2016 when compared to the college. Program productivity ranged from 13.0-15.7 FTES/FTEF while the college ranged from 16.6-17.5 FTES/FTEF for this same time period.

3. Success and retention for face-to-face as well as online/distance courses.  
Success and retention rates continue to remain excellent and significantly above college-wide statistics. Program retention was 97-100% for the past five years (2011/2012 - 2015/2016) while college retention for face-to-face courses varied from 84-88% for the same time period. Program success remains excellent with 95-99% while college success was significantly lower with 68-70% for 2011/2012 – 2015/2016. There are no online/distance education courses.
4. Any unplanned events that affected your program.  
There were no unplanned events that affected our program in the 2016/2017 academic year.
5. Degrees and certificates awarded (three-year trend data for each degree and/or certificate awarded).

<b>Radiologic Technology Program Number of Awards/Completions</b>			
Academic Year	<b>Associate in Science Degree</b>	<b>Venipuncture Job Skill Certificates</b>	<b>Fluoroscopy Job Skill Certificates</b>
2015	17	17	17
2016	20	20	20
2017	21	21	21
3 year total	58	58	58
These award/completion numbers are from program records.			

6. Reflect on any changes you would like to see in your program in the next 3 years.  
As 67% of the faculty are new faculty, they are planning to expand the use of educational technology in the classroom and lab environments. The faculty believe that this will change will positively improve student engagement and critical thinking. In addition moving record keeping to an electronic platform will improvement analytics for classroom, clinical and program assessment.  
Future goals are identified in Section B of this report.
7. List degrees and certificates awarded (three-year trend data for each degree and certificate awarded). Include targets (goal numbers) for the next three years.

Full Name of Degree or Certificate	2015- 2016	2016- 2017	2017- 2018	2018- 2019	2019- 2020	2020- 2021
Associate in Science Degree Radiologic Technology	20	21	18	22	22	22
Principles of Venipuncture Job Skills Certificate	20	22	18	22	22	22
Principles of Fluoroscopy Job Skills Certificate	20	21	18	22	22	22

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**Resource Request and Analysis:**

Resource Request		If Fulfilled, Discuss How Previous Year's Requests Impact Program Effectiveness?
<p><b>Positions:</b>  <i>Discuss the impact new and/or replacement faculty and/or staff had on your program's effectiveness.</i></p>	<p><input checked="" type="checkbox"/> 1: Classified Staff  <input checked="" type="checkbox"/> 2: Faculty</p>	<p>The program has 3 FT faculty and 1 PT faculty. One FT faculty retired in 2016 and one retired in 2017. The replacement of these faculty were necessary to teach all lecture, lecture/lab and clinical education courses for the AS Degree. In addition, the faculty load is sufficiently large in the program that adjunct faculty are also necessary to meet the program's mission.</p> <p>One faculty member that serves as the Program Director will be retiring in 2018 and it is also necessary to replace this position. This position has a specific mandatory job description to meeting programmatic accreditation needs and therefore is necessary to continue the program's leadership.</p> <p>The classified staff DAIII position was requested in 2016-2017 and is requested again this year. This will support the expanding Allied Health Department and specifically the new Health Information and Technology (HEIT) Program developed last year as well as the Radiologic Technology Program. Nineteen hours of a current DAIII position is budgeted for the radiologic technology program; however with the overall growth in the Nursing Department, the hours worked for this program never reach this amount. The HEIT program will be have programmatic accreditation similar to radiologic technology and the program will require support to complete the accreditation process.</p>
<p><b>Professional Development:</b>  <i>Describe briefly, the effectiveness of the professional development your program has been engaged in (either providing or attending) during the last cycle</i></p>	<p><input type="checkbox"/> 1: Provided Professional Development  <input checked="" type="checkbox"/> 2: Attended Professional Development</p>	<p>3 faculty members and approximately 12 students attended the 2017 national radiologic technology collegiate educators meeting sponsored by ACERT (<a href="http://www.acert.org">www.acert.org</a>). The meeting includes multiple educational tracks for program directors, faculty, clinical faculty and students. Workshops are taught by national leaders and authors in radiography. New methodologies were discussed between the faculty upon return to the college with implementation of new student engagement activities such as the use of Kahootit for quiz review in the classroom. The on-line clinical reporting system (Trajecsys) was previewed by 2 faculty members at this meeting and this resulted in the program adopting this new technology for BC.</p>

<p><b>Facilities:</b> 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.</p>	<input type="checkbox"/> 1: Space Allocation <input type="checkbox"/> 2: Renovation <input checked="" type="checkbox"/> 3: Furniture <input type="checkbox"/> 4: Other <input checked="" type="checkbox"/> 5: Beyond Routine Maintenance	<p>New lab tables were procured and installed in the x-ray lab through instructional grant funding and this positively impacted student success. The tables include cabling for computers and electrical outlets which the previous lab tables did not provide. This has facilitated the increased use of computers in the lab for use with electronic texts and workbooks, access to specific radiographic software, and electronic imaging.</p>
<p><b>Technology:</b> 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?</p>	<input type="checkbox"/> 1: Replacement Technology <input checked="" type="checkbox"/> 2: New Technology <input type="checkbox"/> 3: Software <input type="checkbox"/> 4: Other _____	<p>4 new computers together with new cabling and ports were added to the x-ray lab for student use through instructional grant funding. Previously only 2 computers were available to use with specific radiographic software available on the Allied Health server. The expansion of the computers will enable more individual use of the software so students can work at their own pace and/or in groups in the lab setting. The computers will also enhance the ability to move towards electronic imaging and reduce the use of film printing which has increased costs.</p>
<p><b>Resource Request</b></p>		<p><b>Discuss How Effective Request is for Student Success?</b></p>
<p><b>Other Equipment:</b> 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.</p>	<input type="checkbox"/> 1: Replacement <input type="checkbox"/> 2: New <input type="checkbox"/> 3: Other _____	<p>n/a</p>
<p><b>Budget:</b> Explain how your budget justifications will contribute to increased student success for your program. (Fiscal requests will be submitted by the faculty chair and/or area administrator.)</p>		<p>First, the budget for the program primarily supports the instructional needs of the x-ray lab. Examples of supplies include: x-ray film, toner for the specialty image printer, replacement expendable items such as specialty light bulbs used by our digital image readers, replacement lead aprons due to aprons that have cracked and are no longer safe to use. Second, the budgetary allocation permits the college to pay State registration fees for the program, x-ray equipment, and clinical education partnerships as well as regulatory mandates for radiation monitoring.</p>

		Third, the budget supports maintenance of x-ray equipment in the lab which is necessary to assure the quality and safety of our radiation doses.
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**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 Comprehensive Review.

The Radiologic Technology Program is a highly successful Associate in Science Degree program at the college which continues to meet one of the primary missions of the California Community College Core Mission through Career and Technical Education. The career of radiography is a high demand, high wage career that serves the Kern Community College District service area by providing well qualified x-ray technologists that continue to meet community needs every year. The program also meets the core values of the college by fostering critical thinking, developing ethical standards for the safe use of radiation with patients, fostering diversity in the care of patients and a strong commitment and partnership with our Kern County medical community in training competently trained individuals for the local workforce.

Program outcomes remain excellent with both success and course retention exceeding college-wide performance. The program has continued to maintain the highest educational standards by meeting outside programmatic agency regulations both at the State and national level. In addition, outstanding licensure exam results for national radiography and state fluoroscopy licenses has been excellent which enables the graduates to gain a higher than basic living wage employment. To continue to maintain this excellence, the highest program priority is to replace the program director for the 2018-2019 academic year.