Foothill has amazing faculty, staff, administrators, and programs. Program Review is about documenting the discussions and plans you have for sustaining and improving student success in your program. It is also about linking your plans to decisions about resource allocations. Thank you for taking the time to review your program and sharing your findings with the college community!

Program Review Committee Members for 2017-18:

Administrators
- Andrew LaManque
- Paul Starer
- Teresa Ong

Faculty
- Carolyn Holcroft
- Bruce Mc Leod
- K Allison Meezan;

Classified Staff
- Craig Gawlick
- Jackie Brown
- Melia Arken

Elaine Kuo (Ex Officio)

Let us know how we can help you!
https://foothill.edu/staff/irs/programplans/index.php

BASIC PROGRAM INFORMATION

Department Name: Radiologic Technology

Division Name: BHS

Please list all team members who participated in this Program Review:

Name	Department	Position
Rachelle Campbell	Radiologic Technology	Director/Faculty
Bonny Wheeler	Radiologic Technology	Radiation Safety Officer/Faculty
Jenene Key	Radiologic Technology	Clinical Coordinator/Faculty
Melissa Wu	Radiologic Technology	Adjunct Faculty

Number of Full Time Faculty: 3   **Number of Part Time Faculty:** 3

Please list all existing Classified positions: *Example: Administrative Assistant I*

Jenevive Alvarez, Health Careers Coordinator

List all programs covered by this review and indicate the program type:

Radiologic Technology	Certificate	X AA / AS	AD-T	Pathway
	Certificate	AA / AS	AD-T	Pathway
	Certificate	AA / AS	AD-T	Pathway

	Certificate	AA / AS	AD-T	Pathway
	Certificate	AA / AS	AD-T	Pathway

Not sure? Check: https://foothill.edu/programs/ and click to sort using the "Areas of study/Divisions" button
Current pathways at Foothill College include: ESLL, NCEL, ENGL pathways (ENGL 209-110-1A; ENGL 209-1A; ENGL 1S/1T); MATH pathways (NCBS 401A/B; MATH 235-230-220-105; MATH 217-57).

SECTION 1: PROGRAM ENROLLMENT, PRODUCTIVITY, AND COMPLETION

Data for certificates and degrees will be posted on Institutional Research's website for all measures except non-transcriptable completion.

1A. Analysis of Transcriptable Program Completion Data: Please use your data to complete the following table.

Transcriptable Program	Five-year trend in degrees/certificates awarded	Comments
e.g. Associate Degree for Transfer	The number AD-Ts awarded has been steadily increasing each year, up to a high of 39 degrees awarded in 16-17	We are pleased to see this trend and believe it will continue as more students pursue AD-Ts
AS Degree	All graduating students each year earn the AS degree. The overall trend has not changed.	Based on the number of applicants received each year the interest in the program has never wavered.

*according to CCCApply data

1B. Non-Transcriptable Program Data: If your program offers any non-transcriptable programs, please complete the following table. Institutional Research does not track this data; each program is responsible for tracking its own data.

Non-Transcriptable Program	Comments	Five-year trend	Rationale for program
e.g. Certificate of Proficiency in xx	We anticipate that this trend will continue because enrollment in the core classes for this certificate is holding steady	The number of completers has remained steady at around 9 per year	This credential boosts potential for job advancement in the xx industry. We receive positive feedback from employers (link to advisory committee minutes)

Mammography	The Mammography certificate is earned by all students completing the program. We are a recognized Mammography School by the Department of Public Health's Radiologic Health Branch.	Same as the number of AS Degrees each year.	This certificate allows the graduate to sit for the California State Mammography licensing exam. Though females work as Mammographers, males can become certified which may equate to higher pay. This education can lead to potential advancement in the workforce by increasing their marketability.
Venipuncture Certificate	The California State certificate documents the required venipuncture education which includes pharmacology and dealing with contrast reactions in the clinical setting.	Same as the number of AS Degrees each year.	This certificate is required per Title 17. This education allows a graduate to be recognized as having the education necessary to perform venipuncture in the clinical setting. This education can lead to potential advancement in the workforce by increasing their marketability.

The 2017-18 College Strategic Objectives (E^{2}SG) operationalize the college's3 EMP goals and include:

Equity– Develop an integrated plan**;** identify goals for alignment with equity, student success, and basic skills; and focus on efforts to integrate with enrollment strategies (access, retention, and persistence) to close equity gaps while increasing enrollments at the same.

Enrollment Growth – Achieve more than 1.5% FTES growth at 500 productivity (+/- 25) with attention to integrating equity efforts related to enrollment, CTE, and Sunnyvale Center.

1C. Course Enrollment: Enrollment is a count of every student who received a final grade (A, B, C, D, F, P, NP, W) in your program's courses. It also serves as an indicator for program viability. Please use your program review data to examine your course enrollment trends and check the appropriate box below.

The link to the program review data tool can be found on the Employee tab of the portal: myportal.fhda.edu (Program Review Application).

5-year Enrollment Trend: Increase   Steady/No Change X Decrease

Our college goal is to increase enrollment by 1.5% FTES this year. What steps might you take to increase the numbers of students enrolling in your courses? Steps might include cross department collaborations, actions to increase retention, service learning projects, support for student clubs, participation at recruitment events, examination of pre-requisites, review of assessment results, etc.

The data indicates an overall decline in enrollment over the past five years, but demonstrates steady enrollment over the last three years as 22 students have been accepted each year. The decline in enrollment was due entirely to the loss of several clinical sites in 2013-2014. The program is restricted regarding the number of students that can be accepted based on the number of clinical spots available. Title 17 of the California Health and Safety Code and JRCERT accreditation standards requires a one to one ratio of student to technologist for proper supervision and sufficient physical resources which contributes to ensuring a high-level education experience for the students. It should be noted that the number of applicants over the last five years has steadily grown, over 200 each year, with a high of 300 in 2016. It should also be noted that the number of students accepted for the 2017-2018 year was 23, an increase of one student due to an increase in clinical affiliates.

A great amount of work has been done over the past 2 years to ensure stable clinical affiliations and to add new clinical sites. New clinical opportunities have been implemented over the last 2 years with the addition of PAMF - Fremont and PAMF – San Carlos. To bring a clinical site on requires a multitude of steps, including contract negotiation, Department of Public Health Radiologic Health Branch pre-approval inspection, JRCERT approval, as well as orientation and training of clinical staff. This process can take more than 6 months to complete.

Opportunities are being explored to create more surgical rotations. This will not immediately increase overall clinical spots, but will enhance the program and provide students with essential experience and skills to make them competitive in the workplace. The future goal would be to add surgical rotations with the option to expand into full rotations.

An area of enrollment growth where the program could play a role is the idea of upskilling post-graduation. The new AHS courses that will be taught in 2018 could be packaged and marketed to our hospital affiliates. This includes a cardiac course, ACLS and PALS certification, along with the DMS cross-sectional course. These courses are extremely valuable for our graduates as many of them move into advanced modalities within two years' post-graduation. The program will also be creating a series of short credit courses related to digital radiography and radiation safety during fluoroscopy. This education is required for Radiologic Technologists to maintain California Radiography licensure and the fluoroscopy permit.

The program along with the other allied health programs have created a robust interprofessional education component through the AHS50A and 50B courses. Three of the program directors became TeamSTEPPS Master Trainers during summer of 2017. We will be working with the remaining program directors to assist them in becoming Master Trainers as well. This education will not only allow us to increase the interprofessional education of program students, but also to expand to clinical preceptors across the various clinical affiliate partners through clinical education.

Another idea discussed by the program directors is to focus on the Guided Pathways Framework. By working collaboratively across all allied health programs and across campus, we could create stackable certificates that allow students to meet the requirements for multiple programs. This would require collaboration between the allied health programs and various faculty across campus. The goal would be to increase the contextualized learning in selected courses for students in the health pathway. This would result in students better prepared to not only enter the allied programs, but prepare them for transfer as well.

1E. Productivity: Productivity is a measure of students served per full-time equivalent faculty and is a factor in program viability. Please use your program review data sheet to examine your productivity trends and check the appropriate box below.

5-year Program Productivity Trend: Increase   Steady/No Change X Decrease

The college productivity goal is **500 (+-25)**. There are many factors that affect productivity (i.e. seat count/ facilities/accreditation restrictions, curriculum, etc**.**). Please discuss factors that may be affecting your program's productivity trends and any plans you have for addressing the trends, especially if they are declining.

COMPREHENSIVE INSTRUCTIONAL PROGRAM REVIEW TEMPLATE 2017

Areas that contribute to low productivity are the restricted size of the program, the three-full time faculty and the lab component which requires an 8 student to one faculty ratio. The program is accredited by the California State Department of Public Health's Radiologic Health Branch and the Joint Review Committee on Education in Radiologic Technology (JRCERT). The faculty each play a unique role that is outlined in Title 17 and in the JRCERT standards; Program Director, Clinical Coordinator and Radiation Safety Officer. Our program has a high success rate leading to high paying jobs. This requires integration and constant communication between the faculty.

The program's productivity through 13-14 was well over 525. The productivity number referred to above includes RT200L, but does not include AHS 50A and AHS 50B, both of which are required program courses. The inclusion of the two courses from the AHS department would provide a much more accurate picture of the productivity as both of the courses are taught by RT faculty. RT200L does not play as big of a role in productivity as the faculty previously thought. This is apparent when comparing the productivity with RT200L (450) vs. without (445).

The primary reason for the decrease in overall productivity since 2012 was the loss of several clinical sites in 2012-2013 for various reasons resulting in a decline in the number of students admitted from 31 in 2012-13 to 23 in 2013-14 and finally to 22 students in 2015-16 and 2016-17. Though new clinical sites have been added, they have not had a major impact on the overall number of students the program can accept. Title 17 guides the specific requirement for placing students in the clinical setting. There must be sufficient number of Radiologic Technologists at the clinical site as well as a ratio of 1 student per x-ray room. This definition prevents placing additional students with our current clinical partners, but also ensures that direct supervision and educational needs are met. It should also be noted that there is an additional requirement that the Radiologic Technologists working with our students in the clinical setting must have a minimum of two years of experience to work with our students at all. The program requested a variance from the Radiologic Health Branch so that the only technologists that must have two years of experience are the ones that evaluate the student's performance. This variance was requested and granted in 2016. Without this variance, the program would have had to take less than half of the students it is currently taking. Even with the variance, this has a major impact on the number of students that can be placed at a clinical site in addition to the supervision and physical resources. If a student cannot get signed off on competencies due to a lack of technologists with two years of experience, they cannot progress through the program. This issue is carefully monitored.

The RT lab in Room 5305 has four stations, allowing for two students per station during the three-hour weekly lab. This lab is an imperative part of the process for students to gain hands-on experience with radiographic exams prior to performing them in the clinical setting. State regulations require a one to eight ratio. Due to this, the class is split up into three lab groups. Each lab group meets once per week for three hours. As there is only one lab course per quarter and three instructors teaching the full three hours, this impacts the productivity of the RT53AL, RT53BL, and RT53CL courses.

The program is focused on potentially expanding the clinical orientation course, RT53, to address the need to ensure the students are better prepared for the clinical environment. This would increase productivity for RT53 while simultaneously addressing a programmatic need. Work is

being done to recoup some of the lost clinical spots by actively engaging with potential clinical partners. This is one reason why release time is so imperative for the Director.

COMPREHENSIVE INSTRUCTIONAL PROGRAM REVIEW TEMPLATE 2017

SECTION 2: COURSE COMPLETION & STUDENT ACHIEVEMENT

2A. Institutional Standard: This percentage represents the lowest course completion (success) rate deemed acceptable by the College's accrediting body (ACCJC). The institutional standard during the year for which this program review is being written (2016-17) is**57%**.
Please check the appropriate box:

Program Level Course Completion: X Above Standard   At Standard   Below Standard

If your program's course completion (success) rates are below the institutional standard (see above), please discuss your program objectives aimed at addressing this.

The program course completion success rate for 16-17 school year is 98%. This is much higher than both the institutional standard of 57% as well as the overall success rate of the college, 80%. The program maintained a high success rate in all areas, ethnicity, gender, and age. When delving deeper it is noted that the Targeted and Non-targeted groups were equally successful until 2016-2017. During this year, the Targeted groups success rate was at 99% while the non-targeted groups were at 97%. It should also be noted that there has been a shift in ethnicity. In the past, the white population has attributed to 30% or more of the student population in the program. During the 16-17 school year, the white population dropped to 25% while the Filipino population doubled form 15-16 and reached a 5 year high of 22%. There was no discernable change in the overall school statistics, though it appears that the white population is trending down overall while the Filipino population remained flat. The program has a higher proportion of Associate Degree holders than the school. This is not unexpected as the students must complete several prerequisite courses prior to applying to the program. Many times, this leads them to completing an Associate Degree prior to entering the program. As the program uses a Lottery system, interested students must have multiple educational goals in case they are not selected to enter the program. The students entering the program with a Bachelor's degree or higher has declined over the past few years while the High School graduates with no college degree has held steady. No discernable trends regarding gender or age in relation to success was apparent in the data. There was a noticeable dip in the 2016-2017 40+ age population. As this population has maintained a 98% or higher success rate in the past four years, this will be monitored for any trends. An interesting note is that this is the population that had the highest rate of success (84%) for the school while the program's highest success was with the 20-24 population which happens to be the lowest for the school (77%). Regarding ethnicity, the success rate of all ethnicities has held at 98% or above, except in the 2016-2017 school year where the white population success rate dipped to 95%. As the past success rates have been high, again this issue will be monitored. It would be very interesting to look at Success by Educational level. Though we are provided the statistics regarding the student educational level in the program, we are not provided with their success statistics. This information could enlighten the faculty as to additional resources and/or methodologies to implement to increase student success.

2B. Institutional Effectiveness (IEPI) Goal: This percentage represents an aspirational goal for course completion (success) rates; all programs should strive to reach/surpass this goal. The IEPI goal for which this program review is being written (2016-17) is**77%**.
Please check the appropriate box:

Program Level Course Completion: X Above Goal   At Goal   Below Goal

If your program's course completion (success) rate is **ABOVE** the IEPI goal, please share your thoughts about why/how this is so (we hope to learn from your effective practices!).

The Program's Completion rate is above the IEPI goal of 77%. The completion rate for 2016-2017 was 98%. We strive for 100% by working with each student as an individual, but also utilizing the cohort model to build in support. A faculty member is assigned to each clinical site and goes to their clinical site each week while the students are there. This integrates the faculty and student together, increasing the usage of the faculty as a resource and allowing the faculty to provide more support. The program also utilizes current students as paid tutors to provide assistance at all hours and days of the week. The usage of Etudes in the past has allowed students to access relevant course content throughout the program. As the curriculum builds on itself, it important to keep in mind that when the students are introduced to material is not when they are going to master it. By maintaining access to content learned in prior quarters, the students are able to connect information at a greater rate as they progress though the program. This process will be continued with Canvas.

Another area of focus that the program excels at is feedback. Feedback is provided on a regular basis both in the didactic courses, but specifically in the clinical courses where the application of knowledge is occurring. There is a dedicated process that the students are officially provided feedback though a folder review process. The Faculty and Clinical Instructors meet with each student at the halfway mark during the quarter to provide feedback on what the student has been doing well and where they need to improve. There is an additional process in place for students who are struggling. As soon as an issue is identified, an office conference is conducted. The student meets with the faculty and clinical instructor to discuss the issue, to determine what improvement is needed, identify resources to assist the student with improving (positioning book creation, review of technical factors and protocols, utilization of the open lab on campus) as well as the timeline for reassessment of the issue. If the student is not able to improve in the timeline provided, an educational plan is implemented providing additional resources and more one on one direct intervention. If the student is still not able to meet the performance requirements outlined in the Educational Plan, the student is placed on probation. The probation form outlines steps that will be taken to assist the student with improving the specific area identified. This process includes weekly meetings with the Faculty and Clinical Instructor to ensure that continuous communication is part of the process in order to convey the student's progress.

Feedback from the students, graduates and employers is also an extremely important part of program improvement. Students in the program complete surveys for each of the four clinical rotations, the clinical instructors, each of the three lab courses and the faculty. The clinical rotation and clinical instructor feedback is shared with the clinical affiliate manager and clinical instructors. The RT53AL –CL lab course evaluations are shared with all of the faculty and discussed. The evaluation of each faculty conducted annually is a requirement of JRCERT accreditation. These evaluations are separate from the Foothill Faculty evaluation process and an MOU was created to ensure the separation of the two processes. The Program Director and faculty review the results and discuss areas to focus on to achieve continuous improvement.

The program lab is another area that is utilized to assist students throughout the program. The lab is open three days a week, one hour per day for the students to receive help with positioning, technical factors, anatomy identification, patient communication, and image

analysis amongst other issues. The students can attend the Open Lab (NCBH 400) on their own, but it is also used to assist students who are struggling in the clinical setting. The student is sent to open lab with specific areas to focus on by their clinical instructor and faculty. The faculty assigned to open lab is made aware of the specific student need so they can assist with the process.   WSCH is collected in Open Labs which is set up as supplemental instruction.

The key component to all of this is the teamwork between the faculty and clinical instructors. Clinical Instructor Meetings are held four times a year, March, June, September and December, to ensure that changes to the program are discussed and concerns addressed. Without the teamwork between the faculty and clinical instructors, the program would not be nearly as successful.

The program has focused on ways to reduce costs to the students whenever possible. Lottery funds are used to cover required materials when possible, such as student manuals. Funds were requested to purchase textbooks for a book loan program. The program has also spent time in ensuring that the faculty are fully aware of student resources such as the health center, psychological services and the library, especially over the summer. As the program is a year-round program, the resources during August and September are crucial to ensuring the students have the support they need to be successful. The Strong Workforce funds allowing for the implementation of Trajecsys has also been extremely helpful. The funds paid for the two current cohorts, Class of 2018 and Class of 2019, Trajecsys access. Another round of funding for Trajecsys was requested from Strong Workforce 2nd round funds. This system is being rolled out over a number of years as it requires the education of all the clinical instructors, faculty and students. The cost of Trajecsys will be paid for individually by future students, but it is imperative while the program establishes the user end processes that the cost be borne by the program and not the students. This is essential for buy in from both the students as well as the clinical affiliates.

2C. Course Success Demographics: Please examine the **"**Disproportionate Impact data by year**"** shared with your department and discuss actions you are taking, or plan to take, to address any achievement disparities identified in your program. If you are uncertain about actions faculty can take, please take a look at Appendix A. https://foothill.edu/staff/irs/programplans/docs/appendix-a.pdf

After reviewing the disproportionate impact data, it occurred to the faculty that this data included RT200L. RT200L is a prerequisite course required for students to apply to the RT program. This course is an essential component as it allows the student to gain a deep understanding of the Radiologic Technology Program as well as the profession. The RT200L course was created to address attrition early in the program. Once the program begins it is impossible to fill spots when students drop out. The amount of attrition due to students leaving the program because they decide the profession is not for them decreased dramatically due primarily to the RT200L prerequisite course. The students attend campus lectures as well as rotate to one of our clinical affiliates. During the clinical affiliate rotation, the student has an opportunity to tour the facility, observing exams in diagnostic radiography, CT, MRI, Angiography, emergency room, etc. This tour is conducted via the current students in the program along with the clinical instructor of the affiliate. The course requires 100% attendance as there are only 6 meetings during the quarter. The clinical rotation has specific objective measures to evaluate the student such as: did they contact the facility to confirm their visit, did they arrive on-time, did they wear appropriate attire, and did they bring the required paperwork. The student is then required to write a short essay and perform a 5-minute oral presentation based on their experience. Rubrics are provided to the students outlining specifically what is expected. The evaluation methods used represent the goals and requirements of the Radiologic Technology Program. Written and verbal communication skills are essential to the Radiologic Technology profession, specifically relating to patient safety. The rubrics were instituted two years ago and could be why the overall success rate of the students has trended down, from 94%, to 92% to 88%. The primary reason students do not pass RT200L is not meeting one of the objectives listed above.

The overall student withdrawal rate for RT200L was higher in 16-17 which will be carefully monitored to ascertain any trends. It was noted that the Filipino population withdrew from the course at a higher rate in the 16-17 school year. The 14-15 and 15-16 data indicates that the Filipino population was equally and or more successful in relation to the entire class, so this issue will be carefully monitored. Due to the low number of students in certain populations, it is difficult to ascertain the true disproportionate impact. It should be noted that Latino/a, Native American, Pacific Islander and Low Income Students success rates were higher than the course success rate for the 16-17 school year. Male student success rates are also trending up. This is important as the program receives more female than male applicants. As this course is a gateway to the program, it is essential that the faculty analyze this data on an annual basis to determine what curricular or pedagogy changes may be needed. Development of a lab component to increase the students understanding of the scope of practice of the Radiologic Technologist is under discussion.

As the primary program is cohort based and extremely structured, the faculty felt it was necessary to disaggregate the data and separate RT200L from the program data. This resulted in some interesting

findings. This is an important distinction as there is an intense focus on student success in the program and the data that includes RT200L skews the results to 95% success. The program needs to be able to identify if the strategies currently being employed within the primary program are working. Upon review of the data, it is noted that there were no African American, Native American or Pacific Islander students in the program during the 16-17 school year. These populations are represented in the RT200L course. Due to the lottery based acceptance process that the Program utilizes per Title 5 education code, there is no way to address this issue, except through recruitment tactics. This is being done through events such as Program Nights and Adult Education CTE events. The Asian, Filipino, Latino/a, male, female and veteran populations succeeded at an equal or higher rate in comparison to the overall student population. There was a slight gap in the White, Students with Disabilities and Low Income Student Populations: 95.0%, 91.6%, 95.7% respectively in comparison to the overall success rate of 97.7%.

Upon review of the data from 14-15, 15-16 and 16-17, a dip in overall success rates for 16-17 was noted. The two years prior had overall success rates of 99.0 and 99.8% respectively. What is notable is the slight gap for Students with Disabilities in 14-15 and 16-17 as well as Low Income Student populations in 16-17. There were no Students with Disabilities populations in 15-16 and Low Income Students populations were equally successful in comparison to the overall success rate that year.

Data Analysis:

Students with Disabilities

- 14-15: 95% successful in comparison to the 99% overall success rate.

- 16-17: 92% successful in comparison to the 97% overall success rate.

Low Income Students

- 14-15: 75% successful in comparison to the 99% overall success rate. (Please note the that this represents 1 out of 4 students and is therefore not statistically relevant. This was included as the program is dedicated to increasing opportunities to assist low income students with their education goals.)

- 16-17: 95% successful in comparison to the 97% overall success rate.

These two populations will continue to be monitored. Areas that the program will continue to focus on are:

Low Income Students: Developing opportunities to address student financial need, such as book loan programs, covering the cost of course materials through lottery funds, and working with students to create opportunities for commute partnerships to school and the clinical settings. The program also is invested in providing information and support for students to apply for scholarships both through Foothill and the community. Faculty write letters and review essays to provide feedback to the student. The program also employs one of the current students as the class tutor. A second tutor is hired during the Spring Quarter to allow for transition as the second-year class prepares for graduation. This may be

expanded in the future to have two separate tutors throughout the year, one for each cohort. Continued access to funding to address the needs of Low Income Students is vital to the work outlined above.

Students with Disabilities: Continue to increase faculty and Clinical Instructor knowledge regarding teaching students with disabilities by inviting a DRC counselor to a Clinical Instructor Meeting. These meetings are held 4 times a year in March, June, September and December. Continue to communication with the DRC so that students not readily identified in this population can quickly access services. Provide additional support services such as supplemental instruction and tutoring to increase the successful application of knowledge in the clinical setting. Quantify and solidify the tools that have been utilized in the past, such as creating positioning books to refer to during radiographic exams, attending open lab with specific goals based on clinical performance, and increasing the utilization of the energized lab on campus to connect the action of positioning and technical factor selection to the outcome of the radiograph.

Be sure to include the resources you need to implement or sustain your action plans in Section 3.

2E. Faculty Discussion: Course-Level Outcomes: Please share examples of how assessment and reflection of course-level Student Learning Outcomes (CL-SLOs) has led to changes in curriculum or teaching.

Areas related specifically to curriculum updates and improvements:
- Addressed oral and written communication issues by teaming up with the library to address research and preparation deficiencies. The students are introduced to the library resources in the AHS 50A online summer course and then one year later go through a face to face comprehensive three-hour educational activity focusing on research. The primary issue in the summer is that the library closes so scheduling of the AHS50A course and the activity in the second year has been a very important component to ensure that specific goals can be reached. A bibliography assignment will be added to the second year in Summer 2018 to evaluate the effectiveness of the educational activity.
- Roll out of the clinical competency requirement changes in adherence to the new ARRT guidelines. This was also an opportunity to change when elective competencies were completed during the program. Prior to this change they were completed throughout the program, but not counted until the final quarter in RT63C. They are now counted in the quarter they are completed to focus on increasing student competency in these areas.
- Increase critical thinking activities through the clinical image analysis project which was implemented three year ago. The image analysis project initially focused on anatomy identification and will now include open ended critical thinking questions to address physics content for the RT63A, B, C clinical courses. A pilot of the updated image analysis quizzes was conducted in Spring 2017. The results were brought to the Spring Clinical Instructor meeting held on June 26, 2017. The questions were reviewed for each quiz and changes were made based on Clinical Instructor and student feedback.
- Altering the timing of summer didactic courses to promote better student time management and to reduce the stress of a major transition point during the program; specifically extending the RT72 course from 8 weeks to 10 weeks. This allowed for off-setting the midterm and final exams for the two summer didactic courses. The summer quarter is an intense transition period in the program. The students in the Spring Quarter are in class three mornings a week with one afternoon lab and in clinic two days per week for 8 hours per day. The summer transitions the students to clinical four days a week and classroom one day per week for 8 hours a day.
- Lecture component of RT72 was streamlined in Summer 2017 to align better with the textbook. This allowed the students to connect better to the pharmacology material and created a firmer foundation. As all of the courses in the program build on one another, steps such as this do not just contribute to the success of the students in the RT72 course, but also contribute to the long-term knowledge building necessary for them to pass the national board exam at the end of the program.
- Upcoming Change starting in Fall 2017: Incorporate Trajecsys, an online clinical education system into the clinical courses, RT53A-D and RT63A-C. This online application will allow for increased transparency for both students and program faculty. Data collection and analysis takes a lot of the Director's time each quarter. The Trajecsys system will allow for more efficient data analysis. This system will also allow students to review clinical observations and competencies from home. Currently, students only have access to this information during designated meeting times in the

clinical environment which may not allow them to fully contemplate feedback in order to incorporate feedback. Another opportunity is for real-time trend analysis allowing faculty to be nimble in identifying and reacting to issues. Typically, the analysis of issues would come at the end of the quarter when it is too late to effect change. The Trajecsys system also allows for norming of the clinical experience as it increases the faculty ability to have a big picture view of the program. The system also increases the education of the students by increasing their critical reflection. This tool provides the students direct feedback and allows them to create their own educational plan by performing a repeat analysis. This level of knowledge increases the student's ability to improve their clinical work. The program has implemented the time-clock, exam logging and competencies during the 17-18 school year. Further funding is needed to continue rolling out the various components without the students bearing the brunt of the cost before the system is fully integrated into the program.

- The RT52A, B, C first year radiation physics series has been renumbered to RT55A-C and reordered to better align with program objectives. The course that was taught in the spring will now be taught in the winter as the content aligns better to the fall course. The winter course will now be taught in the spring as the content is utilized in the summer Fluoroscopy course. Additional resources were also required for the physics course, online physics modules, to support the students in RT55B. This course focuses on circuitry of the x-ray equipment and can be difficult to master.

- Implementation of pediatric activities in the RT53CL laboratory course utilizing the infant phantom purchased last year. We also added an image analysis session to the summer clinical course, RT53D, to continue the student's pediatric education begun in the Spring Quarter in RT51C and RT53CL. This is essential as the students are allowed at this point to begin completing pediatric competencies.

- Implementation of digital radiography lab education utilizing the new DR and upgraded CR equipment in the 5305 RT lab. This equipment provides opportunities for the students to understand content from RT55A-C, RT51A-C, RT53A-D, RT63A-C and RT62B. The equipment is also used during supplemental instruction classes that are held for one hour three times per week. This hands-on opportunity to use the equipment in the energized room links the students didactic and clinical knowledge.

- Through evaluation of students as well as feedback from students and clinical affiliates, we have increased focus on Operating Room and C-Arm equipment knowledge and skill. Stanford donated a c-arm last year which allowed for more hands-on opportunities – RT51C, RT53CL lab, RT72 lab, Winter RT63B. During the Spring Quarter RT51C course in the first year, the OR and c-arm are introduced. A hands-on component is performed in the RT53CL lab course. An orientation checklist developed for c-arm and OR was created and is reviewed during the hands-on activity. Additional weeks of OR (minimum of two weeks per quarter for the last four quarters of the program) was instituted as well at all clinical affiliates that offer OR/c-arm opportunities. A lab activity is conducted at the end of the RT72 course which allows students to reflect and act out skills learned in the RT53D clinical course. This is done in the classroom using the c-arm with a faculty member driving the educational experience. A surgical environment is created by using a patient simulator strapped to a backboard and balanced between two desks. A sheet is draped over the patient simulator to add

authenticity. It should be noted that the carpet in the classroom is a huge barrier to this process as it makes it very difficult to maneuver the c-arm. This is disruptive to the students building confidence in their skills as well as a safety risk due to the amount of effort it takes to move the equipment. A new gurney without a crossbar would also help with this process as the backboard has a tendency to slip off the desks. A secondary issue that has also proven to be a major barrier is the fact that the monitor that came with our donated c-arm is too old to upload any images. The system is a floppy drive system that is no longer supported by GE. GE sent out a technician three times in hopes of being able to provide images to the program free of charge. Alas, to date, no images are in the system as GE was unable to supply them to the program. This is a major barrier as the students are not able to complete their skills review. During surgical cases, students are required to demonstrate competency with the C-arm. One area of competency is reacting to the surgeons needs regarding image quality. Due to the lack of images on our c-arm monitors, this skill cannot currently be replicated on campus. A goal is for the program to purchase an updated c-arm monitor that works in conjunction with our current c-arm so the students have an opportunity to build these essential skills. Another skills session takes place in Winter Quarter of the second year. The students spend half a day with the Paramedic program students obtaining venipuncture live stick training. The second half of the day, they spend creating scenarios and filming them utilizing the c-arm equipment. Due to a lack of a dedicated simulation room, this activity very much depends on the availability of the classroom, 5210, as the c-arm does not fit in our lab, 5305. These videos will be shared with the first-year students in the RT51C course where the initial OR/C-arm education occurs. This 360-degree wrap around approach to c-arm and OR readiness will hopefully resolve a 10 year issue the program has been trying to overcome. Continued effort is ongoing. The program is currently working on providing OR/C-arm rotations to students at clinical sites that do not offer this opportunity.

- Upcoming Change: Adding COMM 2 as a prerequisite to RT53, the first clinical course in the program, for the 2019 application cycle. This change was announced two years before the actual change to provide ample time for students to complete the upcoming requirement. COMM 2 is being added to deal with the interpersonal communication issues that are increasing in number over the past three years. The goal is that the student will enter the program with specific knowledge that can then be leveraged and built upon as the students move through the program. Currently, the program has to set the foundation as well as the continuation of this education. This is leading to many students not having the prerequisite skills to navigate the clinical setting and patient care areas of the program and causing them to struggle. This is the first step in addressing this issue globally. This change was brought to both a Clinical Instructor meeting as well as our annual Advisory Board Meeting for discussion. The faculty worked closely with the COMM faculty to determine which course would be most appropriate. It should be noted that COMM 2 is a prerequisite to the Canada College RT Program. It is important to ensure all prerequisite changes are in alignment with identical programs in the region.
- Upcoming change: Purchase of additional skull models for the RT51C and RT62C courses. Skull and facial bone radiographic exams are some of the most complex that

the students will tackle during their time in the program. The proper positioning and technical factor selection can be the difference between the Radiologist being able to diagnose the issue vs. requiring additional imaging through CT. This results in a delay in diagnosis and care as well as an exponential increase in radiation exposure for the patient. So, the education aspect of the program is essential. Skull anatomy is extremely complex as the bones are quite small and have multiple details that affect positioning. During the RT51C lecture, the initial education regarding skull anatomy and positioning is conducted. Prior to the purchase of additional skulls, the students would only be able to utilize two senses, hearing and vision to be able to understand the relationship of the anatomy. With the addition of the skull modals, the students can perform hands on inquiry during the lecture component. This was tried in RT51C in 2016 for the first time with a positive reception from the students. The issue at the time was a lack of models. Many students had to share which decreased the opportunity for understanding. The program purchased enough models so that each student has one during the 6-hour skull education in RT51C.

- Upcoming change: IPad, iPad covers and an iPad recharging cart were purchased to allow students access to 3D virtual anatomy applications in order to increase their understanding of anatomy and positioning during the RT51A-C series. Other free applications have been added to address cross-sectional anatomy knowledge in the second-year curriculum as well as Kahoot. Kahoot is a particularly useful application when performing review sessions throughout the program. Currently the students have to use their own devices to access the Kahoot activity. As not all students have unlimited data, this application will be added to the iPad for student utilization. This will take the place of clickers that were purchased by the program but have never worked properly in the classroom. The 64 clickers were loaned to the Biology department so as to avoid wasting resources.
- Upcoming change: Anatomage table was purchased to be utilized in conjunction with anatomy and positioning throughout the RT program curriculum. Access to the table will be key in the process of embedding its content into the curriculum. This will enhance both the first and second year curriculum, most specifically for anatomy knowledge during the first year and advanced imaging knowledge during the second year.

2E. Faculty Discussion: Program-Level Outcomes: Please provide examples of what is being done at the program-level to assist students in achieving your Program-Level Learning Outcomes, degree/certificate completion, and/or transferring to a four-year institution (e.g. review of progress through the program, "career days"/open houses, mentoring, education pathways (clear, structured academic program maps (suggested courses for each term) for all academic programs), etc.). If your program has other program-level outcomes assessments (beyond SLOs and labor market data),discuss how that information has been used to make program changes and/or improvements.

The student success rate has remained high over the past several years, ranging from 98-100% annually. Workforce data indicates that the program has maintained excellence in both the National Pass Rate and employment rate of our graduates. The pass rate for the national board exams on the first attempt is 100% for the graduates in 2015, 2016 and 2017. Graduates continue to be employed at a high rate post-graduation. The class of 2016 reached 100% employed within 7 months of graduation. This is impressive as the national certification and state licensure process, both required prior to employment, can take up to 90 – 120 days to complete due to delays in the state licensing process. The class of 2017 is right on target with 95% employed within 5 months of graduation. This is especially impressive as the state experienced additional delays in processing licensure applications during summer 2017. Many of the hospitals require that the students take the state Fluoroscopy exam prior to being considered for employment. This year several of our affiliates have changed their policy regarding this issue. Their new policy requires that the graduate take and pass the Fluoroscopy exam within 6 months of employment. This has lessened but not eliminated the delays in employment. A noticeable positive trend has occurred in the past several years, there are more full-time employment opportunities than in prior years.

Program success is measured by job placement rates, national certification exam results, clinical affiliate management surveys, student exit surveys, graduate surveys as well as our annual assessment plan. The assessment plan is required by our accrediting body, JRCERT, and addresses our program goals:
1.   Students will be clinically competent.
2.   Students will communicate effectively as an active member of the health care team.
3.   Students will apply critical thinking.
4.   Students will demonstrate professionalism.
SLO's and PLO's for Foothill reflect elements of the assessment plan to reduce redundancy when possible, but additional work beyond the Foothill process is required. The SLO's are more focused on individual didactic courses, while the assessment plan indicates the connection between the individual courses and the progression of knowledge attainment. Data is collected regarding each clinical course (7 total) and every student grade made up of 10 categories is compiled in a spreadsheet. This process has been completed each quarter for the past four years to look for trends, not only within a cohort but across cohorts as well. Outcomes data is shared at our quarterly Clinical Instructor Meeting as well as our annual Advisory Board Meeting.

Mobile imaging, a major part of the Radiologic Technologist role, has been an area of concern on the student exit survey, Graduate survey and Employer Survey for the past 10 years. A C-arm was donated by Stanford to address OR surgical imaging education. The program has begun implementing c-arm simulation activities to increase student skills and critical thinking. A designated area for the simulation is needed to be able to replicate the OR suite. A portable machine is still needed to completely replicate industry standards. Both of these areas require high level critical thinking skills. The employer survey performed annually has indicated that more work is needed and is critical to ensure the future employability of our graduates.

The program went through accreditation site visits with our two accreditation agencies in 2015, the California Department of Public Health's Radiologic Health Branch (RHB) and the Joint Review Committee on Education in Radiologic Technology (JRCERT). Both site visits included review of both campus and clinical areas. The results of the RHB site visit were positive and the program earned the highest accreditation award of 8 years by JRCERT. An interim report will be due in 2018-2019 to JRCERT and the RHB visits are on a three-year cycle.

The following are examples of what is being done at the program-level to assist students in achieving program goals:
- Feedback from our clinical instructors at our quarterly meetings is utilized to review issues. One topic that is being reviewed is how to best prepare the students for clinical practice upon acceptance to the program. The first clinical rotation includes a two-week clinical orientation as well as 160 hours in the Fall quarter. This is the shortest of the 4 clinical rotations. Discussions have been held regarding this issue at both clinical instructor as well as advisory board meetings.
- Surveys of the graduates upon graduation (paper version exit survey conducted on the last day of class), 6 months' post-graduation (via direct email from the director to the graduate) and one year post-graduation (official survey to satisfy our accrediting body requirement, done via the Foothill Institutional Research Department) to ensure that the needs of the student are being met both during the program, but also after graduation.
- Survey of the employers 1 year post graduation (official survey for accrediting body requirement, done via the Foothill Institutional Research Department). This ensures that there is a minimum of two times per year that the employers can voice their specific issues, needs and ideas.
- Annual Advisory Board meeting – provides opportunity for the program to provide statistics regarding the state of the program to our affiliated institutions, tackle two to three problems in-depth and get feedback regarding industry needs as well as changes on the horizon.
- Affiliate information day – During the last quarter of the program, a huge amount of focus is on assisting the students with preparing for employment. One way we do this is by inviting representatives from all of our clinical affiliates to meet the graduating class. Each affiliate provides an overview of their facility, mission and employment opportunities. They also give the graduating students direct contact information as well as advice on becoming a successful Radiologic Technologist. As students only rotate to 4 of the 14 affiliates this is an opportunity to learn about the clinical sites they did not rotate to. By keeping this process embedded in the program we are able to provide a focused individualized experience not achievable with a campus or allied health program wide process.
- Mock interviews – The clinical instructors arrange for a supervisor or manager to conduct a mock interview. This increases the students' knowledge of the process as well as helps them prepare for future interviews.
- Professional Development in Radiology course – RT 62C – One of the courses in the final

quarter of the program is focused on professionalism. This includes building a resume, interviewing skills, creating a portfolio to illustrate their body of work, continuing education requirements post-graduation, licensure and certification processes, Joint Commission knowledge, how to avoid compassion fatigue and burnout, as well as preparing for continuing to pursue advanced modality certification and advanced degrees. The resume that the students create is read by three industry professionals and feedback is provided. It is a multi-layered process specifically focused on the Radiologic Technology profession. Attempts were made to integrate this with other allied health programs, but the feedback from our affiliates was that the programmatic process we had developed met the needs of the industry much better.

- Advanced Radiographic Principles Course – RT 63 - One of the courses during the final quarter helps the students prepare for the national and state exams. The program is taught in silos. This course allows the students to connect the knowledge they have attained over the prior year and a half in both didactic and clinical courses. This course utilizes the HESI comprehensive exam to assist the student in their preparation process. This exam has been a highly effective tool in allowing the student to assess their readiness for the national exam as well as inform the program as to the areas that require increased focus for future students. This allows for continues improvement.
- Interprofessional education – Education including multiple allied health programs with a focus on patient safety is conducted throughout the program, beginning in AHS50A, AHS 50B, but also in several one day workshops. The various program faculty collectively focus on the health care team. This better prepares our students to work in a hospital environment.
- Guest speakers – Industry experts, including our Medical Director, are utilized throughout the program, but specifically in the AHS series as well as in the Professionalism course. This allows the students to hear directly from the experts on a variety of issues, patient safety and radiation protection to name a few. Recently a past graduate who is a PACS coordinator at one of our affiliates guest lectured in the RT52D course. The RT72 course provides an opportunity for past graduates to mentor the current students and the Paramedic Program Director provides advanced patient assessment education, an area of particular focus in the past few years.
- ACERT Conference Attendance – Our students and faculty attend an annual national conference. The students participate in a student bowl, where they are tested on the knowledge they have attained from the program, attend lectures focused on issues specific to students and faculty, as well as participate in the Poster Competition. During the RT61B Research Course, the second-year students in a team setting develop a research topic and create a poster that is presented at the National Conference. They compete against students from across the country. Our students have earned top honors in both the student bowl and poster competition several times over the past few years. The conference is used as an opportunity to increase the student's knowledge of continuing education, a requirement of future licensure and certification maintenance. One of our clinical instructors has been a speaker at this national conference several times and this allows the students to see how they could contribute to the profession.
- Maintain contact with the graduating class via email by sending out job postings both during the last quarter of the program as well as during the first 6-months post-

graduation. The director keeps track of who is still seeking initial employment or additional employment and shares job postings from industry partners. When requested, job postings are sent to several years-worth of past cohorts to account for movement within the industry and upskilling.

Please attach Course and Program-Level Outcomes (Four Column Reportfrom TracDat). Contact the Office of Instruction if you need help.

If your department has a Workforce/CTE program, please complete Section 2F.
If your department does not have a Workforce/CTE program, please skip to Section 3.

2F. Workforce/CTE Programs: Refer to the program review [website](#) for labor market data.

What is the regional five-year projected occupational growth for your program?

+8 percent

What is being done at the program-level to meet/adjust to the projected labor market changes?

The program has worked on increasing enrollment by adding additional clinical sites. This is a delicate balance as there needs to be enough jobs at the end of the program. The goal is to be able to accept 24 to 26 students. This number would account for attrition while still maintaining a sufficient number of jobs.

The other issue that has occurred is the AB 387 bill which threatens the existence of all allied health programs in California. This bill was introduced to the state legislature in February 2017 and if passed would require students completing clinical hours to be paid minimum wage by the clinical affiliates. As the healthcare industry requires licensure and supervision, clinical spots would be cut as the hospitals and clinics would not be able to take on as many or any students. This bill would also result in the loss of JRCERT accreditation as students being paid for clinical hours is a violation of accreditation regulations. This is to provide protection for both students and patients. This bill was pulled from voting and placed in the inactive file in June 2017, but as it is a two-year bill could be reintroduced in 2018. The faculty spent an enormous amount of time networking and voicing opposition to this bill due to the negative impact it could have on the program. This included testifying before the California State Legislature, co-authoring an article for the California Society of Radiologic Technologists TechniGram, and speaking as a panelist at a Town Hall hosted by the California State University, Northridge Health Administration Graduate Program. Currently the bill remains in the inactive file. If the bill was reintroduced the program would host a statewide Radiologic Technology Program event inviting local Assembly members, representatives from RT programs, current students, clinical partners and past graduates. The event would be an opportunity to introduce the issues as well as provide perspective and ideas on how to meet the needs of the students and profession while maintaining access to the programs.

Another area is the increasing focus on integrating more OR opportunities into clinical rotations to ensure student competence and employability which has been mentioned several times throughout this document.

The program will be presenting the idea of up-skilling post-graduation at the 2018 Radiologic Technology Advisory Board. The new AHS courses that will be taught in 2018 could be packaged and marketed to our hospital affiliates. This includes a cardiac course, ACLS and PALS certification, along with the DMS cross-sectional course. These courses are extremely valuable for our graduates as many of them move into advanced modalities within two years' post-graduation. The program will also be discussing the idea of creating a series of short credit courses related to digital radiography and radiation safety during fluoroscopy. This education is required for Radiologic Technologists to maintain California Radiography licensure and the fluoroscopy permit. Additional input regarding postgraduate education will be obtained from the Advisory Board.

The faculty is also evaluating a pilot program in Sacramento to determine how to best serve our clinical affiliates in the area of cross-training once the graduate enters the workforce. The program offers an introduction to advanced modalities, but there needs to be a pathway for graduates to get the additional education and clinical hours necessary to

become certified in additional modalities. This would make them more competitive in the workforce and better serve our clinical partners. The Radiologic Technology program offered Fellowships in Advanced Modalities (CT, MRI, Angiography and Interventional) in the past, but only one student was served at a time due to clinical constraints. This resulted in a large amount of work on the part of the program with limited results. An alternative model to achieving a pathway at a larger scale is necessary. More information regarding this will be forthcoming next year.

What is being done at the program-level to assist students with job placement and workforce preparedness?

> Examples of what is being done at the program-level to assist students with job placement and workforce preparedness are listed in section **2E. Faculty Discussion: Program-Level Outcomes**.

Be sure to include the resources you need to implement or sustain your action plans in Section 3.

SECTION 3: SUMMARY OF PROGRAM OBJECTIVES & RESOURCE REQUESTS

3A. Past Program Objectives: Please list program objectives (not resource requests) from past program reviews and provide an update by checking the appropriate status box.

1. Maintain an affective program and accreditation.	Year:	Completed	X Ongoing	No Longer a Goal
2. Increase interprofessional education opportunities utilizing simulation scenarios.	Year:	Completed	X Ongoing	No Longer a Goal
3. Expand program clinical sites.	Year:	Completed	X Ongoing	No Longer a Goal
4. Maintain faculty expertise in the Radiologic Technology field.	Year:	Completed	X Ongoing	No Longer a Goal
5. Provide educational opportunities that mirror industry standards.	Year:	Completed	X Ongoing	No Longer a Goal

Please comment on any challenges or obstacles with ongoing past objectives.

All of our past objectives continue to be our ongoing objectives. Time and money continue to be barriers, but creativity and determination have allowed the program to continue attaining a high level of success. The students continue to be a source of inspiration regarding how to achieve success. The evolution of the OR/C-Arm education outlined earlier in this document is the direct result of student feedback.

Please provide rationale behind any objectives that are no longer a priority for the program.

N/A

3B. Current Program Objectives and Resource Requests: Please list all new and ongoing program objectives based on discussion in Sections 1 and 2, including your objectives to eliminate any achievement disparities in course success for student subgroups (**S**ection 2A). If additional resources are needed, indicate them in the table below. Refer to the Operations Planning Committee (OPC) website for rubrics and resource allocation information.

Resource Request	Program Objective	Implementation Timeline	Progress Measures	Resource Type Requested*	Estimated cost
	Example: Offer 2 New Courses to Meet Demand	*Winter 2016 Term*	*Course Enrollment*		

Dedicated room for scenarios	Goal 2: Better prepare students for clinical practice in the area of mobile imaging. Dedicated room with no carpet for multi-program simulations which would allow the RT program to provide essential interprofessional education as well as opportunity for c-arm and portable imaging hands-on education. This training is crucial for our students ability to compete for jobs.	Ongoing	Student clinical evaluations	Facilities/equipment	unknown

Ipad Applications	Goal 5: Increase use of support tools by adding essential apps the the classroom ipads to assist students in learning radiographic pathology and cross-sectional imaging, essential knowledge that serves the student both as an entry level radiographer, but also supports advancement in the field.	Spring 2018	Assessments in the RT51A-C courses, RT54C Pathology course, and the cross-sectional advanced modality course.	Facilities/equipment	$5,000
Two large Monitors for 5210	Goal 5: Add two large monitors between the lightboxes on either side of the room. This would allow inclusion of DICOM images to be displayed during didactic courses that currently are only utilized in the RT Lab.	Spring 2018	Classroom Instruction	Facilities/Equipment	$10,000

Portable x-ray unit	Goal 2 and 5: to be utilized in scenarios. Portable imaging requires additional layers of critical thinking that the program can not duplicate with the current stationary equipment in the RT lab.	Winter 2018	Student clinical evaluations	Facilities/equipment	$50,000

| Trajecsys funding | Goal 1: Online application the students use this system as an educational tool. They are able to receive feedback on performance from faculty, clinical instructors and staff technologists. The students are required to use the Trajecsys tool to each perform a repeat analysis of their own work and create a performance improvement plan. The Trajecsys system allows the student to increase their critical reflection. A second year of funding is needed to continue integrating it into the program. | Class of 2020 Cohort that starts in July 2018 | Clinical feedback, assessment of process as well as time management of program faculty. Review of students repeat analysis logs and performance improvement plans. | Strong workforce – this was requested in the second-round funding application process. | $150 x 24 = $3600 |

Venipuncture / Lab supplies	Goal 1: To meet California state requirements that mandate venipuncture education in RT72 and to meet state guidelines for radiography education in RT53AL-CL	Ongoing	RT72 course grades / RT53AL – CL grades and student surveys.	Perkins or Lottery	$3000
Professional development	Goal 4: For faculty to maintain currency in a rapidly changing profession, to allow faculty to update curriculum changes required by accreditation, and to maintain faculty licensure (required by law).	Ongoing	Across the entire program	Perkins	$7500

Imbedded tutor	Goal 1: Works with students during off hours. Due to the rigor of the program additional support is crucial to maintain the high success rate the RT program has achieved. We would like to incorporate two tutors next year, one from the first year and one from the second year. This would allow for better access to tutoring services.	Ongoing	Assessment of student success in comparison to past years, specifically in critical areas of the program that have demonstrated to be stumbling blocks for the students.	Perkins	$3000
Tables and chairs to replace desks in room 5210.	Goal 1: The desks impede student learning and student engagement during active learning activities. The desks also physically impede students of size.	Winter 2018	Student surveys.	Facilities/equipment	$5000 estimate

COMPREHENSIVE INSTRUCTIONAL PROGRAM REVIEW TEMPLATE 2017

Gurney for c-arm OR simulation.	Goal 5: The current gurney has a metal bar across the bottom and will not allow for the c-arm activity. A new gurney would allow the students to not have to balance a backboard between two desks.	Spring 2018	Clinical and lab evaluations.	Facilities/equipment	$2500
Removal of carpet in 5210, replace flooring with solid surface	Goal 2 and 5: The c-arm is housed in 5210. It is a mobile imaging device that takes skill and abiltiy in maneuvering it. The carpet is a barrier to this process and forces the student to push harder than normal. This causes both a mental block to students building confidence, but also a physical barrier than could be harmful. This is a health and safety requirement.	Winter 2018	Health and safety need.	Facilities/equipment	unknown

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Replacement of x-ray tube in 5305 energized x-ray lab	Goal 1 and 5: The energized x-ray room is utilized for the majority of first year courses. The energized room allows students to take x-rays of phantoms using the DR equipment that was purchased in the past two years. This allows for hands on replication of radiography performed in the clinical setting absolutely necessary for student success. The x-ray tube needs to be replaced or the energized room will be non-operational. This is a major issue and needs to be replaced asap.	Winter 2018	Compliance with accreditation mandates as well as needed to teach the lab courses, RT53AL – CL as well as the RT52D Digital course.	Facilities/equipment	$6,510.50

Conversion of a current 11 month employee to 12 month due to retirement of 12 month employee	Goals 1 and 3. With the retirement of our 12 month employee Bonnie Wheeler, we are missing a month of coverage of clinic activities. The RT program is a 12 month program and there must be faculty oversight of the clinical placements of students. Currently we have one 11 month employee who is willing to convert to 12 months	12th month of this academic year	Program cohesion	One additional month of faculty pay	$14,000

Full time Faculty to replace Bonnie Wheeler retiring at end of spring 2018	Goals 1 and 3	Summer 2018	See rational below in 3C	faculty	$100,000

*Resource type should indicate one of the following: One-time B-budget; Ongoing B-budget augmentation; Facilities/Equipment; New faculty/staff.

3C. Faculty/Staff Position Requests: Please describe the rationale for any new faculty or staff positions your program is requesting:

We are requesting a fulltime faculty to replace Bonny Wheeler, the program's Radiation Safety Officer, who is retiring at the end of Spring Quarter 2018. The program is accredited by two bodies, JRCERT and the California Department of Public Health's Radiologic Technology Branch. Three full-time

faculty are essential for the program to meet all accrediting and legal obligations outlined in the JRCERT standards and Title 17 of the Health and Safety Code. Each fulltime faculty has a designated role in the program. The Director is in charge of contracting/re-contracting with institutions, annual reporting, mid-term reports, accreditation self-study, assessment data collection and analysis required by accreditation, accreditation compliance to the new standards which are adopted every three years, budgets, clinical instructor and advisory board meetings, and ultimately shaping the direction and vision of the program. The Clinical Coordinator's role is to get students cleared for each of the four clinical rotations which involves copious amounts of paperwork to meet the ever-changing requirements set forth by the clinical affiliates, ensuring the clinical affiliates are in compliance with state laws and regulations, and ensuring the supervision of all students. The role of Radiation Safety Officer (RSO) is in charge of the programs Radiation Safety program, required by Title 17 and Title 10 of the Federal regulations. The RSO updates the program policies, monitors the radiation exposure of all students in the clinical setting as well as our energized laboratory. They are in charge of dosimetry reports, investigating exposure levels within 10% of our designated threshold, maintaining the pregnancy policy by ensuring the clinical sites are educated, creating education plans if a student becomes pregnant while in the program, maintaining the energized lab through quality control procedures, and working in conjunction with the other faculty regarding RHB compliance inspections. In the past year the additional duty of ensuring the students are educated in MRI safety and go through a clearance process at the beginning and midway through the program as required by JRCERT. All of these examples are outside of the classes being taught and therefore are not elements that a part-time faculty can perform. The RSO also teaches our physics and fluoroscopy courses ensuring that the students have a solid foundation in radiation safety and radiobiology for the protection of patients, clinical staff as well as the students themselves. The program is actively engaged in adding two additional clinical sites which will result in additional students being accepted. The full-time faculty is essential to maintaining cohesion with our clinical partners and ultimately the success of the program. The program has had three fulltime faculty to meet all of the programmatic obligations for many years. No matter how many students are in the program, the accreditation and regulatory requirements are the same.

Alternatively a temporary full time faculty would suffice and allow the onboarding of several new clinic sites. We are projecting that our enrollment could increase to 25-26 for entering class of 2019 with the addition of the temporary full time faculty that could help with onboarding the new sites.

A dedicated counselor housed in the counseling area. This individual would be the resident expert in all allied health programs allowing for better alignment and flow of information and yet retain the links to the counseling department for collaboration and information sharing.

3D. Unbudgeted Reassigned Time: Please list and provide rationale for requested reassign time.

There are many duties the RT program director must manage such as secure clinical contracts, organize the advisory board meeting and secure members for the board, maintain program compliance with JRCERT accreditation standards and Title 17 of the California Code of Health and Safety, oversee TracDat, write the program review document, course curriculum editing, oversee incoming students and required paperwork, student counseling (conferences, warnings, probation and dismissal), scheduling of part-time and full-time faculty with quarterly course offerings, organize and attend community service activities (required by accreditation), organize interprofessional education opportunities, keeping track of budget from several accounts, order and submit payment for supplies and equipment, requesting one-time lottery, Perkins, and minigrant money, holding program information events, coordinating website postings, coordinating RHB licensure applications and verifying graduation, coordinate graduation ceremonies, coordinate quarterly, graduate and post-graduate surveys, maintaining faculty credentialing binder, maintaining outcomes assessment binder for accreditation, conduct regular staff meetings, and other duties not listed.

Another area that needs to be addressed is the continuing education of the counselors at Foothill, specifically regarding the RT program. The program director needs to play an increasing visible role in this process. Jenevieve Alvarez, the Health Careers Coordinator, does an outstanding job in guiding students through the application process as well as educating interested students, but she is responsible for 7 allied health programs. This means she is allotted 14% of her time to interacting and assisting students interested in the Radiologic Technology program. In the past, the program has requested a counselor to be assigned to the allied health area. In the interim, it has become increasingly apparent the importance that the Counselors play in informing unaware students of the programs existence, educating and assisting interested students in preparing and applying to the program, and guiding current students in the program to successfully completing the AS degree. The graduates also need assistance with planning for future endeavors such as transferring to attain a Bachelor's degree once they have established a high paying job. The necessity of the counselors being fully informed in all aspects of the program cannot be stressed enough. They are an integral part of the guided pathway that is the Radiologic Technology Program.

3E. Please review any resource requests granted over the last five years and whether it facilitated student success.

The update to the Radiologic Technology Lab has been very helpful with preparing students for the clinical setting and increasing their knowledge regarding the equipment. The program purchased DR equipment and had the CR equipment upgraded. This allowed for comparable demonstration to the clinical setting. Four mock DR plates were also purchased which have been integrated into the RT53AL-CL courses to increase utilization knowledge of DR, specifically related to the issue of collimation. The infant phantom is another purchase that has increased the students' knowledge of technical factors for the pediatric population. Skull models were purchased so that students could each utilize one during the RT51C and RT62C courses increasing the opportunity for hands on interaction. Purchasing access to Trajecsys for the students, especially during the initial implementation phase has been extremely helpful. Venipuncture supplies have been essential to ensure the students are educated and that we are in compliance with mandated education requirements. Professional development funds have allowed the faculty to attend state and national conferences as well as state Radiologic Health Branch RTCC meetings to maintain currency in all aspects of the Radiologic Technology profession.

SECTION 4: PROGRAM SUMMARY

4A. Prior Feedback: Address the concerns or recommendations made in prior program review cycles, including any feedback from the Dean/VP, Program Review Committee (PRC), etc.

Concern/Recommendation	Comments
Lack of Clinical spots	Additional release time was obtained for the director to address this issue through the Strong Workforce funding process. More clinical opportunities were developed at several clinics in the past year. Future opportunities were established during this additional release time to bring back a clinical site that will help the program overall as well as to establish possible additional clinical sites regarding OR/C-arm activities.

Program Director Time	The amount of time that the program director is spending on program issues far exceeds the 35% release time provided. In order to decrease time traveling to locations as well as being confined to the campus to do data analysis, the program has begun using CastleBranch for student clinical clearance and Trajecsys for student clinical performance data. As the program director has access to both of these systems it has been helpful with the overall running of the program as well as developing and maintain the vision regarding the continued high performance of the program. The application for the program is also moving online. This change will help streamline the application process and cycle allowing the program to evaluate the clinical orientation course and perhaps expending it. Without the application cycle being streamlined, the process to clear students earlier for clinical would not be possible and therefore the expansion of the clinical orientation course would not be possible. The Strong Workforce funds for Trajecsys as well as additional release time have been helpful. Interprofessional education endeavors have allowed for increased collaboration and support between all of the allied health directors.

4B. Summary: What else would you like to highlight about your program (e.g. innovative initiatives, collaborations, community service/outreach projects, etc.)?

The program has been highly successful for over 50 years. Nationally the pay for Radiologic Technologists is much lower and the job opportunities are scarce. This has not been an issue for the Radiologic Technology graduates from the Foothill College program. They are able to find employment within six months of graduation in spite of the delays by the state regarding the licensing timeline as well as the two to three licensure exams that must be passed before employment. Silicon Valley is the second highest paid area in the United States for Radiologic Technologists. The program is also proud of the interaction and collaboration being developed amongst all of the allied health programs. The interprofessional education that has been implemented over the past four years has increased and expanded the community that the Radiologic Technology Students are part of. The relationship with the Paramedic program regarding additional venipuncture training has also been invaluable and allowed our graduates to be more prepared to enter advanced modalities (CT, MRI) post-graduation. In the past several years, the allied health programs have teamed up to collect socks and personal grooming items to donate to St. Anthony's in San Francisco. This helps the students serve the communities in addition to the 1,850 clinical hours that they perform over the course of the program. Our faculty are amazing and totally dedicated to the success of our students. We are very proud of our team and most importantly of our students.

This section is for the <u>Dean/Supervising Administrator</u> to provide feedback.

6A. Strengths and successes of the program as evidenced by the data and analysis:

The Radiologic Technology program is the most popular Allied Health program in our Division. They regularly receive between 250-300 applicants each year.

The diversity of the program has continued to improve over the last five years.   The 2016-17 class was almost equal divided between latino/a, asian, filipino and white students.

There is no equity gap for students in the RT program. All students succeed regardless of demographic identifiers.

Graduates of the program enjoy high employment rates and earn a living wage in Silicon Valley. Every hospital in the Bay area that is filled with Foothill College Rad Tech graduates.

The program director continues to do extensive outreach to increase the number of clinical affiliates to permit increasing the number of students per cohort.   She is also innovative and entrepreneurial in her efforts to develop new certificates and coursework as described in this PR.

6B. Areas of concern, if any:

The limited class size is an area of concern. The reasons for and restrictions on the RT program have been carefully detailed in this PR and are well known to the administration. Continued expansion of the program should be pursued while balancing the cohort size with job market demands.

For many years, this program has had 3 full time faculty to share in the responsibilities and oversight of the program. This year, one faculty will be resigning in Jun 2018. The program is accredited by multiple accrediting bodies which ensures the safety of the clinic sites considering the exposure of students to radiation. Given this safety consideration it takes months to bring a new clinical sight on board because of the oversight of these accrediting bodies. The current program director has worked to bring new clinical sights onboard, but the loss of one full time faculty makes these less likely.

Close monitoring of the AB387 bill is required. Our RT program would be unsustainable if this legislation becomes law. We would lose our accreditation and our program. This would be a huge loss for our community.

Another area of concern is the time that is involved to stay on top of a complex program like RT. Current release time is inadequate and has been supplemented recently with SWP funding to grant additional

time for director responsibilities and innovations. As the school faces increasing budget challenges, I am concerned that release time will be decreased and thereby decrease the ability of the PD to manage and innovate.

6C. Recommendations for improvement:

The program director and RT faculty should continue to outreach to new clinical affiliates in order to maximally expand the cohort size balancing the supply and demand considerations for the Bay area regional RT workforce. In order to maximally build out the cohort size, the program requires a third full time faculty (or at least a temporary FT faculty beginning in summer 2018) to help with onboarding the new sites. If additional full time faculty support is available, the program predicts they could reach a class size of 25-26 by the fall of 2019.

Continued analysis and survey of the ethnicities underrepresented in the RT program is warranted along with implementing of strategies to increase the proportion of Native American, African American and Pacific Islander students in the RT applicant pool.

The program director should continue her innovative approach to problem solving including developing new upscale certificates, further development of guided pathways and regional efforts that might be more appropriate for advanced modality training.

6D. Recommended Next Steps:
> **X**Proceed as Planned on Program Review Schedule
> Further Review / Out-of-Cycle In-Depth Review

This section is for the <u>Vice President/President</u> to provide feedback.

6E. Strengths and successes of the program as evidenced by the data and analysis:

6F. Areas of concern, if any:

6G. Recommendations for improvement:

6H. Recommended Next Steps:
Proceed as Planned on Program Review Schedule
Further Review / Out-of-Cycle In-Depth Review

Upon completion of Section 6, the Program Review document should be returned to department faculty/staff for review, then submitted to the Office of Instruction and Institutional Research for public posting. Please refer to the Program Review timeline.