



Program Review - Instructional Program Plan

Program Title Radiologic Technology

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Executive Summary

Please summarize your program's strengths, opportunities/challenges, and action plans. This information will be presented to the Board of Trustees. (1000 word limit)

Program Strengths:

1. The curriculum is logically organized in such a way to lay a strong foundation for future courses.
2. We provide an in depth look at key aspects of the radiologic technology including; communication skills, critical thinking, radiation physics, protection and effects, radiographic positioning and image creation.
3. Our curriculum provides a well-rounded clinical experience which includes pediatric, high volume outpatient clinics and general hospital. This applied knowledge allows the student to practice in any hospital environment.
4. Providing laboratory experience on campus with two non-producing x-ray units and one producing x-ray unit allows students more individualized practice.
5. All courses have a critical thinking component that prepares students for their future career in radiologic technology.
6. Our graduates maintain contact with the program officials and indicate appreciation for their education and provide valuable feedback.
7. Our relationship with our clinical affiliates/partners is very strong as evident by the support they provide to our students on a daily basis. They mentor and coach Cañada students to become well-rounded technologists and have provided the Program with equipment to enhance student learning.

The strength of the curriculum is further demonstrated by our retention rate, the California Department of Public Health, Radiation Health Branch Fluoroscopy and Mammography examination results and the American Registry of Radiologic Technologists national examination results.

Program Challenges:

1. There is no level one trauma facility (major emergency center) in San Mateo County, therefore the program has no affiliation with such a facility.
2. Students have shown to have greater academic difficulty during the Spring Semester of both the first and second year.



3. The program has found the students are weak in anatomy. Prerequisite requires this class to be taken within the past 3 years. By the second year in the program, it is up to 5 years since students have completed anatomy.
4. There is a substantial increase in the clerical requirements of both the program coordinator/faculty and clinical coordinator/faculty. This increase was recognized by the program's accrediting agency, The Joint Review Committee in Radiologic Technology (JRCERT) during the program's onsite visit and we were found in non-compliance with Standard 2, Section 4.
5. Concern with maintaining affiliation with Kaiser Facilities due to aggressive courtship of their own Radiologic Technology Program based in Richmond. In 2014 we lost our affiliation to the out-patient Kaiser Clinic in Mountain View and Foothill College Radiologic Technology Program lost their affiliation to Kaiser Santa Clara Hospital.

Program Action Plans:

1. A partial solution is to incorporate simulated trauma situations in our lab experience. A request for a trauma PIXY radiographic phantom will be made which will allow students to further their trauma skills.
2. Beginning 2015 first year spring semester RADT 420 and RADT 430 have been changed from 2 days per week to 3 days per week.
Program coordinator will be developing at least one online course for the second year 2016 spring semester.
3. Comprehensive anatomy review in RADT 410 has been incorporated in fall 2014.
4. A clerical position was requested to the college during spring 2014 and fall 2014. To date this position has not been approved. We are requesting this position during the spring 2016 cycle.
5. The program has maintained positive relationship with staff and radiology management, our intent is to continue and look for ways to improve this relationship.
Decisions on hospital affiliations come from upper management in which we have no relationship.

Program Context

1. Mission: Please identify how your program aligns with the college's mission by selecting the appropriate check box(es):

Career Technical Basic Skills Transfer Lifelong Learning

If your program has a mission statement, include it here.

The mission of the Radiologic Technology program at Cañada College is to provide a high quality vocational education to members of our diverse community who seek a career in the radiologic technology profession. The Radiologic Technology Program enables students to develop skills necessary for employment in the medical care community and provides a professional labor pool to



match the needs of the community.

2. **Articulation:** Describe how your program's articulation may be impacted by changes in curriculum and degree requirements at high schools and 4-year institutions. Describe your efforts to accommodate these changes.

The Radiologic Technology Program has no articulation agreements with any schools.

3. **Community and Labor Needs:** Describe how changes in community needs, employment needs, technology, licensing, or accreditation affect your program. CTE programs should identify the dates of their advisory group meetings.

Advisory Committee Meetings: 3/17/2015 and 11/16/2015

Community Needs: With the aging baby boomers in San Mateo County and the country as a whole, it is expected that they are going to require more medical care. There is already an increase in chronic diseases such as: heart disease, diabetes, arthritis, high blood pressure, etc. In addition, the elderly population are also prone to bone fractures cause by osteoporosis, overweigh by inactivity, etc. As a result, this growing segment of the population will require more assistance and more imaging professional to diagnose and treat their medical conditions.

Employment needs: Although hospitals will remain the main employer of radiologic technologists, a number of new jobs will be in physicians' offices and in imaging centers. Employment in these healthcare settings is expected to increase because of the shift toward outpatient care whenever possible. Outpatient care is encouraged by third-party payers as a cost-saving measure and is made possible by technological advances, such as less expensive equipment, which allow for more procedures to be done outside of hospitals.

Technology: Health care and specifically imaging technologies have evolved dramatically the last few years, changing from analog film to digital systems. This evolution affects how and what we teach our students. To be able to stay current, our faculty regularly attend conferences and seminars, but more importantly most members of our faculty work in health care, where they are exposed to new technologies, new equipment and overall new trends.

Licensing and Accreditation: On July 8, 2014 the program was awarded a five year accreditation by the Joint Review Committee in Radiologic Technology (JRCERT). There is the possibility of increasing this accreditation to eight years if four objectives set by the JRCERT are achieved. The program submitted a progress report on December 16, 2014 and we are awaiting to hear those results. It is the goal of the program officials to obtain the eight year accreditation in order to provide stability and continuity to our students.

The program is also licensed by the California Department of Public Health, Radiologic Health



Branch and this is a year to year licensing.

Looking Back

4. Curricular Changes: List any significant changes that have occurred in your program's curricular offerings, scheduling, or mode of delivery. Explain the rationale for these changes.
All clinical education courses and been updated and two courses modified. Introductory information from RADT 418: Clinical Education I has been moved to RADT 408: Prospectives in Radiology. RADT 408 clinical observation has been moved to RADT 418. There is no changes in RADT 428: Clinical Education II. Four 40 hours per week has been added to RADT 438: Clinical Education III. This is the first clinical education summer course. Daily practice will assist students to increase skills learned in previous courses and better preparation for the second year of clinical education. Three 40 hours per week has been added to RADT 448: Clinical Education IV to continue increasing skill level. Preparation for specialized rotation offered in summer course has been updated in RADT 458: Clinical Education V. Students are required to write a resume, letter of intent, goals and objective and two research papers. The additional clinical education hours in RADT 438 and RADT 448 will allow students to graduate two weeks earlier. This means students will be employable at the nearer the same time as other programs.
5. Progress Report: Provide your responses to all recommendations received on your last program review and report on progress made on previous action plans and toward your strategic goals.
Link: [2013-2014 Program Plan and Feedback forms](#)
The program has not received any reconmendation to date.
6. Impact of resource allocations: Describe the impact to-date that each new resource (staff, non-instructional assignment, equipment, facilities, research, funding) has had on your program and measures of student success.
There has been no new resources added to the Program

Current State of the Program

Data packets link <http://www.canadacollege.edu/programreview/datapackets1314.php>

7. Connection & Entry:
 - A. Observation: Describe trends in program and course enrollments, FTES, LOAD and Fill Rates. Cite quantitative data and specific tables from the data packets.
The enrollment and load have been consistent for the past decade. The enrollment is limited by the number of clinical training sites available for students and the job market for graduates of the program. The success and retention is quite high. There is considerable competition to get into the program with 100-130 applications each year for the 20 spots in the class. This allows the program to select students most likely to be successful. In addition the students move through the program as a cohort, which also improves retention and success.

- B. Evaluation: What changes could be implemented, including changes to course scheduling (times/days/duration/delivery mode/number of sections), marketing, and articulation that may improve these trends?

As previously mentioned the number of students is restricted by the number of clinical facilities that can accept these students for training. In addition, the scheduling of didactic classes is restricted in some degree by the number of available hours when students are on campus and not in the hospital.

One possible solution to increase load would be to increase the number of continuing education courses we offer. We already offer mammography as a continuing education course and we have looked at the possibility to develop courses in fluoroscopy for x-ray technologists and physician assistants. However, to offer these courses the program needs to purchase fluoroscopy equipment and to build a fluoroscopy room with radiation safety features as mandated by the federal and state law. The request for equipment and fluoroscopy room were presented during program review in 2013 and 2014.

8. Progress & Completion:

- A. Observation: Describe trends in student success and retention disaggregated by: ethnicity, gender, age, enrollment status, day/evening. Cite quantitative data and specific tables from the data packets.

Students are accepted into the Program through a “paper-only” application process. Only age can be identified from official transcripts that must be reviewed for prerequisites. Students are not identified by ethnicity during the course of the program.

1. The category of African American may include students born in African whose first language is not English. This may explain the low success and retention data for 2012/2013.

2. There is a 0.6 percent difference between gender’s success and retention rate over a five year period. This is not area that needs to be addressed.

3. 2010/2011 Spring data shows a slight decline in success and retention for Filipino, Hispanic, White, both genders, Returning Student, Age 18-22 and Age 40-49. The spring semester first year is probably the most difficult with the greatest number of failures. In 2013 a Promotions Committee was instituted to review all students each semester for early identification of weak and failing students. The impact of this committee will be reviewed Fall 2015 after a cohort has completed the program

4. Radiologic technology curriculum is offered during the daytime only. The evening course RADT 470: Mammography is not required for the radiologic technology program and is open to all licensed technologists.

- B. Observation: For online courses describe any significant differences in the success and retention of students who are taking online courses compared to face-to-face courses.

No online courses are currently offered

- C. Evaluation: Based on these trends, what do you feel are significant factors or barriers influencing student success in your courses and program? What changes (e.g. in curriculum, pedagogy, scheduling, modality) could be implemented to improve these trends?



None required

9. SLO Assessment:

<https://smccd.sharepoint.com/sites/can/CANSLOAC/default.aspx>

- A. Are all course SLOs being systematically assessed at least once/4 years? Describe the coordination of SLO assessment across sections and over time.

The radiologic technology program is a Career and Technical Education program and all curriculum must be updated every two years.

- B. Summarize the dialogue that has resulted from these assessments. What are some improvements in your courses that have been implemented through SLO assessment? How has student learning been improved by changes in teaching? Cite specific examples.

1. The number of laboratory hours in Radiographic Positioning II (RADT 420) were increased as a result of the SLO assessment. We have observed a marked improvement in clinical performance and in students' confidence level.

2. Starting in spring 2015 the didactic hours in Radiographic Positioning II (RADT 420) and Principles of Radiation Exposure (RADT 430) have been rearranged. These courses were offered on a Monday and Wednesday and because of the difficulties students have shown during the first spring semester, program officials rearranged class schedules to Monday, Wednesday and Friday. In the next two years program faculty will assess those results.

3. Laboratory exercises in RADT 435 were reviewed during the fall semester in 2013. The new lab exercises are more representative of the new emerging technologies in medical imaging. These labs provide students with a much deeper understanding of the technologies they will be using once they are employed.

10. PLO Assessment:

PLO Assessment link https://smccd.sharepoint.com/sites/can/prie/_layouts/15/start.aspx#/

- A. Describe your program's Program Learning Outcomes assessment plans and results of direct and indirect assessments.

- PLOs are assessed every year in accordance with JRCERT requirements, please see attached Assessment Plan 2013 – 2014.

The assessment plan for Program Student Learning Outcomes (PSLOs) measures Program quality through the assessment of benchmarks set by the Program. The measurement of assessments indicate three possibilities: 1) positive results encourages us to continue utilizing current methodology, 2) negative results require review of curriculum, curriculum delivery, application of measuring tool, and then we look for possible solutions; and 3) results that are difficult or impossible to measure are revised, replaced or removed.

- In summary assessment results of PSLOs are good in demonstrating strengths and weaknesses of the program.



•Other data that reveals Program performance are:

1. The State of California Department of Public Health Radiologic Health Branch (RHB) Fluoroscopy examination success rate of 100%.

<http://www.cdph.ca.gov/certlic/radquip/Pages/X-raySchoolPassRates.aspx>

2. The Program Effectiveness Data found in the program’s website.

<http://www.canadacollege.edu/radtech/docs/Program%20Effectiveness%20Data%202013.pdf>

3. The American Registry of Radiologic Technologists National Comparison Report. Attached

B. Summarize the major findings of your program’s PLO assessments. What are some improvements that have been, or can be, implemented as a result of PLO assessment?

1. Sampling pools have been increased when using the Clinical Competency rating Forms
2. In the first and second semester program faculty reinforced areas of radiation protection and shielding during lecture and during practical examinations.
3. A new Practical Rating Form was developed
4. Reinforce in clinical areas the setting and manipulation of radiographic technical factors
5. Adding more radiographic trauma situations to RADT 420.

Looking Ahead

11. Strategic goal & action plans:

How will you address the opportunities for improvement that you identified above in Articulation, Community & Labor Needs, Connection & Entry, Progress & Completion and PLO Assessment? Identify timelines for implementation, responsible party, and resource requirements.

Action Plan	Timeline	Responsible party	Resources required
1. Assess if moving RADT 430 to three days per week improves student retention	End of spring semester.	Course Instructor Rafael Rivera	None
2. Assess if moving RADT 420 to three days per week improves student retention	End of spring semester.	Course Instructor Pamela D. Jones	None



Complete the Resource Request form to request instructional equipment, IT equipment, facilities, professional development, research, or funding (if needed) and submit with this form to your Division Dean.

Link to resource request form <http://www.canadacollege.edu/programreview/instruction-forms.php>