El Camino Community College

PROGRAM REVIEW 2018

HEALTH SCIENCE & ATHLETICS

RADIOLOGIC TECHNOLOGY PROGRAM

DEAN:
Dr. Rory K. Natividad

CONTRIBUTORS:
Dawn N. Charman, M. Ed, R.T

TABLE OF CONTENTS

Contents

SECTION 1
Overview of the Program

A) Provide a brief narrative description of the current program, including the program's mission statement and the students it serves.

The mission of the Radiologic Technology Program is to prepare well qualified imaging practitioners who are committed to professional growth and life- long learning, while supporting the highest standards of ethics, patient care, and technical practice.

Since the last program review in 2014, 93 students completing the program have achieved a 100% pass rate the first time taking the ARRT licensing exam. The program has maintained a 100% pass rate for 18 years, the only program in California with that success rate. Over 98% of the students seeking employment, have obtained employment within 6 to 12 months of graduation. Approximately 85% of the local area Radiography Department staffing are El Camino College graduates.

The clinical (hospital) internship parallels the academic courses. Satisfactory completion of all academic and clinical competencies for the degree and certification requirements qualifies students for State and National Certification examinations.

The Associate in Science (A.S.) Degree Radiologic Technology program is a minimum of twenty-six months in length. The Program begins a new class of students each fall semester. The program consists of four regular semesters (Fall and Spring), two eight week Summer sessions, one Winter session in the second year and one Fall semester six-week post session for the senior students

The program admits on average 24 students per year, depending on clinical space availability. The program has averaged approximately 80 applicants each year. It was noted that when the application period was changed from mid-spring to the end of spring/early summer semester,there was an increase in the number of applications from approximately 50 - 80. This changed allowed more students the ability to apply, as they could have time to finish up some courses during the spring semester and then apply to the program immediately after – and not have to wait until the following Spring to apply.

The Radiologic Technology Program is fully accredited, having met requirements of The Joint Review Committee on Education in Radiologic Technology (JRCERT), and the California Department of Public Health, Radiologic Health Branch (CDPH-RHB). The last Accreditation self-study was completed in Spring 2014, with a site-visit conducted in Summer 2015. The Program was awarded the maximum eight year accreditation. A four year interim report will be due in the Fall of 2020.

The Program also received a site visit by the CDPH-RHB in the Summer of 2016, which included a site visit of all eight clinical education centers, and many program policies, procedures and student records. The program received an outstanding review and was rated as "exemplary". The next site visit by the State RHB is due in Spring or Summer 2019.

"mission-critical" needs and key recommendations-

- Service Contracts and Needed Preventive Maintenance Contracts -
  For the 18 months the program has not be able to adequately use the computer PACS system – which transfers the Radiographic images that are produced in the lab by the students to the viewing monitors in the classroom. The IT department had to upgrade the monitors, making the current software incompatable. This has greatly hampered student learning. They can save their images as a thumbnail

only – so they cannot actually see what images they are producing to review, evaluate, critique and improve. Discussions with the original vendor- Carestream have stalled, as the pricing they have quoted to replace this system is far too expensive for what the division can manage. The program is currently seeking out other vendors and resources to alleviate this issue.

- Release Time –
  The Program Director, while receiving a small stipends each month, has never received any release time for the enormous amount of administrative duties needed for the college, state and national accreditation, and other related duties. This position has been hired as a full time faculty position and therefore the Director must maintain a 100% teaching load to meet contractual obligations in addition to administrative duties required. For the past 18 years, the current Program Director has averaged from 130% to 160% teaching load, with some semesters as high as 175% load. As well, students attend clinical during the summer and winter sessions, so the Program Director and Clinical Coordinator typically maintain full time equivalent hours for summer and winter semester assignments.

  Until the Fall 2018 semester, the Clinical Coordinator never received any extra compensation for all of the additional hours required for the large amount of paperwork tracking required for accreditation, along with the additional workload of "on-boarding"* students each semester. * On-boarding includes getting the students health records, physical fitness, orientation modules, CPR, lab work, drug testing and background records reviewed and approved for clinical placement by each of the clinical facilities – before the student can begin their clinical assignment. While this position is now receiving a nominal stipends, additional release time should be also considered, as these responsibilities are above and beyond the 100% teaching load – and average of 130% to 160 % and more.

B) Describe the degrees and/or certificates offered by the program.

The Radiologic Technology Program at El Camino College is a diagnostic medical radiography program leading to an A.S. Degree and eligibility to take licensing examinations for the American Registry of Radiologic Technology (ARRT) R.T. (R), and certification by the State of California, Radiologic Health Branch for Radiography (C.R.T) and Fluoroscopy (F).

At the completion of the program, students graduate with a Certificate of Accomplishment, and an A.S. degree in Radiologic Technology. The students complete at a minimum 102.5 units - 37 prerequisite courses and general education units, and 65.5 units of Radiologic Technology Program courses.

C) Explain how the program fulfills the college's mission and aligns with the strategic initiatives.

The mission of El Camino College is to make a positive difference in people's lives by providing a comprehensive educational programs and services that promote student learning and success in collaboration with our diverse communities.

STRATEGIC INITIATIVES

1. Student Learning:

The Program uses a variety of methods to enhance and support student learning and instructional delivery methods, educational technologies and college resources: Instructional methods include lecture, on campus lab practice, in classroom computers, flipped classroom models, team work, along with utilizing the online learning platforms available (Etudes, and now Canvas) in all of our courses. Students also complete close to 2000 hours of clinical internships at local area hospitals.

In 2013, the implementation of 2 new Digital Radiography systems in the energized labs has better equipped and prepared students to meet the demands of the industry, while learning in a lab situation prior to the real life scenarios and sometimes stressful situations that can occur with patients at the hospital. The purchase of additional anatomical models has helped the retention of material for students. The purchase of a baby and young pediatric model "radiographic phantom" and pediatric positioning immobilization devices has offered students additional skills in how to handle these sometimes challenging and high need patients. They are now better equipped for the specialized imaging needed for these types of patients at the imaging centers, and can meet the required pediatric competencies required by the American Registry of Radiologic Technology (ARRT).

The Radiologic Technology faculty have attended educational conferences focused on learning how to utilize different teaching styles, methods, and technology to reach all of the students. For the past 2 years, grant monies through the Madden Grant have been provided to faculty, clinical instructors and the second year students to attend conferences with faculty for continued professional development in Radiologic Technology. CTEA and Strong Workforce have also become available for some sources of funding for the program. The faculty will work with the Grants Office to seek out additional sources of funding . Additional monies have been requested via the Annual Plan for more open lab hours for students to practice their skills on campus as well as for student tutors. Students are encouraged to use the Writing Center for help with their 2nd year research term papers.

2. Student Success and Support:

In addition to what is listed above, the program continually seeks ways to maximize quality education opportunities and strengthen support services to enhance student success and empower student learning in the Radiologic Technology Program.

The radiology students are a focused group. From the time a student expresses an interest in the Radiology program, either with a Health Science Counselor, or Rad Tech Faculty member, the students are provided with the information they need to move forward. One of the first recommendations after meeting with a counselor is to take the Introduction to Radiologic Technology course. They can learn more about the program, the profession, and the Program Director attends the class to provide all necessary information for the program application process. All of the information is available to the student on the Radiology Program website at:
http://www.elcamino.edu/academics/healthsciences/radiologictech/

3. Collaboration:

The program has had a long established Radiology Advisory Committee that is made up of Radiology Administrators, Supervisors and Clinical Instructors from each of our clinical

affiliates, along with faculty, counselors and a student representative from each class. Upon recommendation of the Advisory Committee, we began meeting twice a year beginning in 2012. This committee provides an effective process of collaboration and collegial consultation during bi-annual meetings and consultation via email communication and face to face meetings by the program faculty at the clinical sites on a weekly basis.

The three health programs (Radiology, Respiratory Care and Nursing) have had several discussions of how we can strengthen collaboration among programs, integrating patient scenarios with our students that involve all aspects of health care, providing a more real world experiences for our students. The Program Director has visited other classrooms on campus, such as Anatomy, Physiology and Medical Terminology to give students who are taking these courses as a possible pre-requisite for the RT program a chance to ask questions. Faculty participate in college fairs, health fairs and career fairs on and off campus.

4. Community Responsiveness:

Partnerships and affiliation agreements are in place with eight local area hospitals, where students complete a minimum of 1850 hours of clinical internship. The RT Program Student Handbook provides established guidelines for students and staff to follow in the education, training and supervision of students. Again, consultation is sought through the Advisory Committee. The program continues to seek our additional clinical sites to provide a well rounded clinical experience for all of our students. We have had excellent results with student obtaining jobs after graduation. (Program Effectiveness Data) http://www.elcamino.edu/academics/healthsciences/radiologictech/RT%20Program%20Effectivness%2005%20to%202018.docx.pdf

At the onset of the installation of the Carestream Computer Radiography system in 2001, a partnership agreement was developed between the program and Carestream (Kodak) to help educate their field engineers about the basics of radiology and the new equipment, and in turn, Carestream would assist the program with needed software upgrades, and equipment maintenance. This partnership initially continued with the installation of the new Digital equipment in 2013, as the program did not have the funding resources to maintain the $10,000/year service contracts needed to maintain and support the equipment and computers. Unfortunately, with the many changes in the Carestream team, this partnership has not been utilized since 2014, and the equipment is in dire need of repairs. The Program Director is actively working towards re-instituting this partnership agreement.

5. Institutional Effectiveness:

The Radiology program maintains Annual reviews for JRCERT and for the CDPH-RHB accreditation. The RT Program has been accredited by the JRCERT since 1992. As part of the accreditation process, the program has been required to maintain extensive outcomes assessment to measure both student and program success as stated in

JRCERT Accreditation Standard 5:

The program develops and implements a system of planning and evaluation of student learning and program effectiveness outcomes in support of its mission.

5.1 - Develops an assessment plan that, at a minimum, measures the program's student learning outcomes in relation to the following goals: clinical competence, critical thinking,

professionalism, and communication skills
5.4 Analyzes and shares student learning outcome data and program effectiveness data to foster continuous program improvement

The Program's assessment plan measures the program's student learning outcomes in relation to the following goals: clinical competence, critical thinking, professionalism, and communication skills. The assessment plan provides the information as outlined above while the additional documentation reflects the benchmarks, timeframes, frequency of review, person(s) responsible for collecting the data, measurement tools and results. The statistics are collected and analyzed and compared to the goals and benchmarks set. Program faculty regularly reviews the results during department meetings, makes recommendations and seeks input from the Advisory Committee, which represents our communities of interest. Based on the analysis and results, an action plan is developed and implemented for student and programmatic improvements. The outcomes and results are shared bi-annually at the Advisory Committee Meetings for review and comment. The Program's Student Learning Outcomes Assessment Plans and Programmatic Outcomes are made available to each committee member for review. The Student Learning Outcomes Assessment Plan is an ever changing document that undergoes periodic review and revision. All pertinent assessment plans and data can be found in the Outcomes Assessment Notebook. In addition to what is required by the JRCERT, the program has developed and maintained an extensive SLO and PLO assessments required for each course for El Camino College.

The Division Dean works closely with the Program Director/Coordinator to assess the program's anticipated fiscal needs and department budgets for the upcoming year. Each program and division uses the Annual Plan to review and update program's needs and link planning and budgeting.
The fiscal stability of the Radiologic Technology Program is directly linked to budget allocation and related monetary decisions at the institutions' administrative level in collaboration with the program directors and coordinators which includes the PBC and the recommendations about number of sections. The institution has historically provided adequate funding to maintain the program since its inception in 1970. On a yearly basis, budget allocations have been sufficient to meet the program's mission and goals. Currently more resources are needed to repair, replace, and upgrade the Digital Imaging equipment and computers. Annual service agreements would serve this need, but are costly at $10,000/year.

The Radiologic Technology Foundation Account was established in 1995 and is a resource for student scholarships and assistance, as well as many other scholarships from local area hospitals and others interested in contributing to the education of the health sciences students.

6. Modernization:

While the move to the MBA building in 2013 doubled the size of the classroom and placed the two labs within eyesight of the classroom, which improved the efficiency and learning environment for the students and faculty, securing sustainable funding sources has been the greatest challenge to our program. Modernization of our once new Digital imaging equipment that made us a state of the art teaching facility must be a priority.
There are 3 current issues:

1) The Radiographic Imaging Equipment and Computer control systems for the Radiographic room are in dire need of service and upgrades
2) The 4 classroom computers that are used to view the radiographic images via PACS are no longer functioning due to the upgrade to Windows 10

3) The 22 laptop computers for student use that were purchased in 2009 are at their end of life. A request was put through Strong Workforce and was denied. The program was not notified of the denied request for 9 months. The funding could have been used to request other items for the students.

The specifics related to these needs and modernization can be found in section 6

D) Discuss the status of recommendations from your previous program review.

1. **Recommendation: Venipuncture Arms**
   Status: Completed
   Notes/Comments: Great asset to students to have enough arms in the lab that they all can get more hands-on practice.

2. **Recommendation: 2 Portable X-ray units**
   Status: Completed
   Notes/Comments: These 2 portable units have been invaluable tools to assist with all 6 sections of our positioning courses. The other portables have been donated from the hospitals and are not always reliable. Students can break out into smaller groups and get more hands-on experience with positioning. More portables are needed as the class sections are growing in size.

3. **Recommendation: High Volume Document Scanners**
   Status: Completed
   Notes/Comments: For HIPPA considerations, all student logs that listed a patient identifier had to be shredded as required by our clinical sites. Students are able to discard the documents safely and securely at the end of the program. As well, any student records, that are not required to be maintained by accreditation can be securely discarded, freeing up space for the next class of students.

4. **Recommendation: 2 - 50" Flat Screen Monitors**
   Status: Completed
   Notes/Comments: While it took almost 2 years to get these mounted properly with the appropriate AV hook-up by an outside vendor at a cost of $1300, these monitors have also been an invaluable teaching tool for the students. We have one monitor in the lab, and one in the classroom. We will be requesting at least one or possibly two more monitors. One for the other lab room, and one towards the back of the classroom. Students can review the radiographic images, while they position their "patients" and have shown to have a better understanding and correlation of the position to the anatomy. This results in overall better test scores and success in achieving their competencies in the lab.

5. **Recommendation: Pediatric & Infant Phantoms & Immobilization Devices**
   Status: Complete
   Notes/Comments: As mentioned, these devices have been a tremendous help to students learning how to properly handle, position and image children and infants.

6. **Recommendation: Human Anatomy & Skull Models**
   Status: Complete
   Notes/Comments: These models have given students a greater understanding and more hands on and relatable relationship to the radiographic images and positioning

7. Recommendation: Service Agreements for Radiography equipment & software
   Status: on hold
   Notes/Comments: funding not available. It is vital that this get addressed, as the equipment is no longer functional in the state that it is in. See section 6 for more detail

8. **Recommendation:** Educational Software for faculty and students
   Status: on hold
   Notes/Comments: funding sources not available

9. **Recommendation:** Radiography in the Digital Age
   Status: On hold
   Notes/Comments: funding not available, used for other materials

10. **Recommendation:** Radiographic Positioning Simulators
    Status: On hold
    Notes/Comments: Software out of date, need to upgrade for current computers

SECTION 2
Analysis of Research Data

A) Head count of students in the program

Each fall semester the program accepts approximately 24 students, depending on the number of clinical spaces there are available. The program is 26 months in length - which are comprised of seven semesters:
First year students: Fall, Spring & 8 week Summer sessions,
Second year students: Fall, Winter intersession, Spring & 8 week Summer sessions,
Senior students: Last Fall Semester course for 6 weeks

FALL 2018 Semester admitted the following number of students:
24 -1st students, 22- 2nd students, and 19 Senior students
The senior students completed the program on Oct 6, 2018. Two weeks after completion, all 19 graduates (100%) took and passed the National ARRT exam on the 1st attempt.

In addition to the program courses there are 3 sections of the Introduction to RTEC A course. This is a pre-requisite course to apply to the program.
This will add an additional 75 – 95 students each Fall and Spring semester to our enrollment, but these students should not be counted as part of our statistical data as anyone who is interested in the field can take this course. They have not yet applied filed an application or been accepted to the program. Therefore some of the data included in the IR report is skewed when these courses are included.

The RTEC –A courses were removed and placed separately from the IR Data to more accurately reflect the program's information – the chart is on the following page

B) Course grade distribution- Fall semester only

The same co-hort of students are in the same classes for each year
RTEC 106, 111 & 123 represent the 1st year students
RTEC 217, 233 & 244 – the 2nd year students
RTEC 328 – the senior students

The data reflects:
1st Year: Fail rate showed 1/23 2013, 1/22 2014, 2/24 2015 and 3/23 in 2016
Total of 7/92 (7.6%) failed out the first semester which gives a 92.4 % success rate.
While rather uncommon during the second year, there were 3/ 70 students fail during the fall of the second year – giving a 95.8 overall success rate. Typically the program maintains a 100 % success rate in the second year.
For the first time in the last 20 years, there was 1 student who failed out in the senior term. He admitted to not being ready for the workforce and felt we was pushed to succeed by his parents. Suddenly an 85% average student's grades dropped to 65%. As much as we offered counseling and support, this was the direction he chose to take.

RTEC PROGRAM COURSES – Course Grade Distribution

	COURSE	Metho	WKS	'A'	'B'	'C'	'P'	'D'	'F'	NP	Inc P	Inc NP	'DR'	'W'	*Total*	Successful	Retained	Succ.	Reten.
2013	RTEC-106	CL	*16*	22	0	0	0	1	0	0	0	0	0	0	**23**	22	23	95.65%	100.00%
	RTEC-111	L/LA	*16*	1	17	4	0	0	1	0	0	0	0	0	**23**	22	23	95.65%	100.00%
	RTEC-123	L/LA	*16*	3	15	4	0	0	1	0	0	0	0	0	**23**	22	23	95.65%	100.00%
	RTEC-217	CL	*16*	18	2	1	0	0	0	0	0	0	0	0	**21**	21	21	100.00%	100.00%
	RTEC-233	L/LA	*14*	4	16	1	0	0	0	0	0	0	0	0	**21**	21	21	100.00%	100.00%
	RTEC-244	LEC	*16*	11	8	1	0	1	0	0	0	0	0	0	**21**	20	21	95.24%	100.00%
	RTEC-328	L/LA	*6*	4	12	2	0	0	0	0	0	0	0	0	**18**	18	18	100.00%	100.00%
	2013 total		**100**	**63**	**70**	**13**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**150**	**146**	**150**	**97.46%**	**100.00%**
2014	RTEC-106	CL	16	21	-	-	#	-	-	#	#	-	-	1	***22***	21	21	**95.45%**	95.45%
	RTEC-111	L/LA	16	10	9	2	#	-	-	#	#	-	-	1	***22***	21	21	**95.45%**	95.45%
	RTEC-123	L/LA	16	5	14	2	#	-	-	#	#	-	-	1	***22***	21	21	**95.45%**	95.45%
	RTEC-217	CL	16	17	4	-	#	-	-	#	#	-	-	-	***21***	21	21	100.00%	100.00%
	RTEC-233	L/LA	16	3	14	4	#	-	-	#	#	-	-	-	***21***	21	21	100.00%	100.00%
	RTEC-244	LEC	16	3	8	10	#	1	-	#	#	-	-	-	***22***	21	22	**95.45%**	100.00%
	RTEC-328	L/LA	8	6	14	-	#	-	1	#	#	-	-	-	***21***	20	21	**95.24%**	100.00%
	2014 total			**65**	**63**	**18**		**1**	**1**			**#**		**3**	**151**	**146**	**148**	**96.69%**	**98.01%**
2015	RTEC-106	CL	16	16	6	-	#	-	-	#	#	-	-	1	***23***	22	22	**95.65%**	95.65%
	RTEC-111	L/LA	16	15	6	1	#	-	-	#	#	-	-	1	***23***	22	22	**95.65%**	95.65%
	RTEC-123	L/LA	16	6	10	5	#	-	-	#	#	-	-	1	***22***	21	21	**95.45%**	95.45%
	RTEC-217	CL	16	15	4	-	#	-	-	#	#	-	-	-	***19***	19	19	100.00%	100.00%
	RTEC-233	L/LA	16	5	14	-	#	-	-	#	#	-	-	-	***19***	19	19	100.00%	100.00%
	RTEC-244	LEC	16	8	7	4	#	-	-	#	#	-	-	-	***19***	19	19	100.00%	100.00%
	RTEC-328	L/LA	8	4	12	1	#	1	-	#	#	-	-	-	***18***	17	18	**94.44%**	100.00%
	2015 total			**69**	**59**	**11**	**#**	**1**	**-**					**3**	**143**	**139**	**140**	**97.20%**	**97.90%**
2016	RTEC-106	CL	16	5	14	1	#	-	-	#	#	-	-	3	***23***	20	20	**86.96%**	86.96%
	RTEC-111	L/LA	16	6	13	1	#	-	-	#	#	-	-	3	***23***	20	20	**86.96%**	86.96%
	RTEC-123	L/LA	16	8	12	-	#	-	-	#	#	-	-	3	***23***	20	20	**86.96%**	86.96%
	RTEC-217	CL	16	8	10	1	#	-	-	#	#	-	-	-	***19***	19	19	100.00%	100.00%
	RTEC-233	L/LA	16	3	15	1	#	-	-	#	#	-	-	-	***19***	19	19	100.00%	100.00%
	RTEC-244	LEC	16	7	9	2	#	1	-	#	#	-	-	-	***19***	18	19	**94.74%**	100.00%
	RTEC-328	L/LA	8	16	3	-	#	-	-	#	#	-	-	-	***19***	19	19	100.00%	100.00%
	2016 total			**53**	**76**	**6**	**#**	**1**	**-**	**#**	**#**			**9**	**145**	**135**	**136**	**93.10%**	**93.79%**
				'A'	**'B'**	**'C'**	**'P'**	**'D'**	**'F'**	**NP**	**Inc P**	**Inc NP**	**'DR'**	**'W'**	TOT	**Successful**	**Retained**	**Succ.**	**Reten.**
2013	RTEC-A	LEC	16	6	26	15	#	3	5	#	#	-	-	17	***72***	47	55	**65.28%**	76.39%
2014	RTEC-A	LEC	16	8	19	12	#	2	9	#	#	-	-	36	***86***	39	50	**45.35%**	58.14%
2015	RTEC-A	LEC	16	11	15	17	#	7	10	#	#	1	-	20	***81***	43	61	**53.09%**	75.31%
2016	RTEC-A	LEC	16	9	28	10	#	5	11	#	#	-	-	13	***76***	47	63	**61.84%**	82.89%
		total 4 yrs		**34**	**88**	**54**	**#**	**17**	**35**	**#**	**#**	**1**		**86**	**315**	**176**	**229**	**56.39%**	**73.18%**

C) Success rates (Discuss your program's rates, demographic success characteristics and set a success standard for your program.)

The majority of the program students who fail (D or F grade), do so in the first semester. They face many challenges and are not always ready to undertake the rigorous program. While we provide many avenues of information and orientations prior to the application and start of the program, there are still students who decide not to continue early on in the semester.

The majority of students who drop or fail are at the beginning of the program. Occasionally, the results show that 1 or 2 students per cohort will fail out later in the program. There are many factors that contribute to this; sometimes it is academic, sometimes the students are not meeting their clinical competencies and objectives, while sometimes it is personal or health reasons. Overall, the first year, first semester success and retention showed marked improvement after the implementation of the new application procedures. Since some of the changes were made to the application process – there appears to be a decrease in fail rates from the past four year program review from 88% to
92.4 % retention the first year. As well, the communication skills have been emphasized and practiced more robustly in the RTEC A course. In Fall 2017 all 23 students who started the first fall semester, completed it, but one returning student did drop the following Spring. So far in Fall 2018 all 24 students are still successfully passing their first semester.

On average for the other 2 cohorts (2nd year students and seniors), the program averages a 100% success rate except for the outliers mentioned above

D) Retention rates (if applicable, include retention based on placement method)

Retention rate is one of the PLO's that the program measures with a 75% benchmark.
Students in the RT program must pass the course with 75% (C) to remain in the program.

Yr Graduate	# students	End/Start	PCR- Program Completion Rate (Retention)
2014	**20**	20/24	83%
2015	**17**	17/23	74%
2016	**19**	19/22	86%
2017	**18**	18/22	80%
2018	**19**	19/22	86%
2019		22/23* Fall 2018	(90%) *2nd yrs
2020		24/24* Fall 2018	(87%) *1st yr

RTEC A shows a lower retention and success as indicated earlier. Many students are not ready for a rigorous college course at the time they enroll in RTEC A. Some of the RTEC A instructors are part-time

faculty, but they still offer tutoring and extra office hours to those students who are struggling. All students are kept apprised of their grades via Etudes/now Canvas.

E) A comparison of success and retention rates in face-to-face classes with distance education classes –

We currently do not offer any Distance Education courses. We are exploring the possibility of providing one of the RTEC A courses as an on-line course or on-line/hybrid course to offer it to a wider geographical population that may be interested in applying to our Program.

RTEC 91 – Radiographic Pathology is a course that the 2nd year program students or any practicing Radiologic Technologist (RT) is eligible to take and could easily transition to an on-line course.

F) Enrollment statistics with section and seat counts and fill rates

Course Fill Rates - FALL	2013	2014	2015	2016	2017	2018
Radiologic Technology	**110.8%**	**104.3%**	**105.7%**	**105.7%**	**105.7%**	**113.7%**

Seat count and Fill rate variances –

For many years, the program has maintained fill rates averaging higher than 100%. The results demonstrate a higher fill rate in the fall semesters than in the spring. There are several factors that contribute to these variances:

1) A new class of students is accepted each fall semester. The accepted number of students per class ranges from 20-24 students. Typically an additional 1 or 2 students will be accepted above the fill rate, to offset any possible attrition in the first few weeks of the semester. The number of students accepted is dependent on the number of clinical spaces available.

2) The Senior students do not complete the program until after the first 6 weeks of the fall semester. Therefore there are 3 cohorts of students during the fall semester,(first years, second years and senior students) adding to the increase numbers in the fall

RTEC PROGRAM FILL RATES- FALL SEMESTER

FALL	SEAT COUNT			
Year	COURSE	actual	seats	FILL Rate
2013	RTEC-106	23	20	115.00%
	RTEC-111	23	20	115.00%
	RTEC-123	23	20	115.00%
	RTEC-217	21	20	105.00%
	RTEC-233	21	20	105.00%
	RTEC-244	21	20	105.00%
	RTEC-328	21	18	116.00%
	2013	**153**	**138**	**110.80%**
2014	RTEC-106	23	20	115.00%
	RTEC-111	23	20	115.00%
	RTEC-123	23	20	115.00%
	RTEC-217	19	20	95.00%
	RTEC-233	19	20	95.00%
	RTEC-244	19	20	95.00%
	RTEC-328	18	18	100.00%
	2014	**144**	**138**	**104.30%**
2015	RTEC-106	23	20	115.00%
	RTEC-111	23	20	115.00%
	RTEC-123	23	20	115.00%
	RTEC-217	19	20	95.00%
	RTEC-233	19	20	95.00%
	RTEC-244	19	20	95.00%
	RTEC-328	19	18	105.00%
	2015	**145**	**138**	**105.70%**
2016	RTEC-106	23	20	115.00%
	RTEC-111	23	20	120.00%
	RTEC-123	23	20	120.00%
	RTEC-217	19	20	95.00%
	RTEC-233	19	20	95.00%
	RTEC-244	19	20	95.00%
	RTEC-328	19	18	105.00%
	2016	**145**	**138**	**105.70%**
2017	RTEC-106	23	20	115.00%
	RTEC-111	23	20	115.00%
	RTEC-123	23	20	115.00%
	RTEC-217	19	20	95.00%
	RTEC-233	19	20	95.00%
	RTEC-244	19	20	95.00%
	RTEC-328	19	18	105.00%
	2017	**145**	**138**	**105.70%**
2018	RTEC-106	24	20	120.00%
	RTEC-111	24	20	120.00%
	RTEC-123	24	20	120.00%
	RTEC-217	22	20	110.00%
	RTEC-233	22	20	110.00%
	RTEC-244	22	20	110.00%
	RTEC-328	19	18	105.00%
	2018	**157**	**138**	**113.70%**

G) Scheduling of courses (day vs. night, days offered, and sequence)

Radiologic Technology Program Course Sequencing:

	FALL - 16 weeks	SPRING - 16 weeks	SUMMER-8 weeks
FIRST YEAR	**1st Semester (Units)**	**2nd Semester (Units)**	**3rd Semester (Units)**
Clinical Courses Hrs. arranged :	RT 106 (4.0) ~14 hrs./week	RT 107 (7.0) 24 hrs./week	RT 104 (1.5) 27 hrs. RT 109 (2.5) per week
Academic Classes	RT 111 (4.0) RT 123 (4.0)	R.T. 124 (4.0)	
SECOND YEAR	**4th Semester (Units)**	**5th Semester (Units)**	**6th Semester (Units)**
Clinical Courses Hrs. arranged :	RT 217 9 (7.0) 24 hrs./week	RT 218 (7.0) 24 hrs./week	RT 216 (2) 34 hors RT 220 (3) per week
Academic Classes	RT 233 (3.0) RT 244 (4.0)	RT 255 (4.0) RT 93 (2.0) RT 91 (2.0)	
POST SESSION	**7th Semester (Units)** **6 week – Post session**	**All Clinical hours are arranged at the clinical sites** 1st yr Mon- Fri between 7:30 am – 5:00 pm 2nd yr Mon – Fri between 6:00 am – 7:00 pm	
Clinical Hrs. & Lecture Course Hrs. arranged :	RT 328 (3.5) 24 hrs./week & RT 328 Lecture (1.0)	**Summer Hours – Clinical Only** **1st yr Mon- Fri between 7:00 am – 6:00 pm** **2nd yr Sun- Sat between 6:00 am – 9:00 pm**	

As evidenced by the following samples of the Fall 2018 and Spring 2019 schedules, most of the Program courses are held during the daytime hours, although some may not end until after 6 pm. The exception would be in the Summer when the 2nd year students have the opportunity to schedule some evening rotations at the clinical sites.

The RTEC A course has 3 sections and is offered at a variety of days and times to best meet students needs: Tuesday afternoon, Wed evening and Saturday mornings.

MON	TUES	WED	THURS	FRI		SAT
RT 111 9:00am - 12:10am # 8802 & 8804	RT 244 7:30am – 9:35am #8822	RT 123 9:00pm – 12:10pm 8808	RT 233 9:00pm – 12:10pm #8818 & 8819	RT 111 LAB 9:00pm – 12:10pm # 8802	RT 244 7:30am – 9:35am #8822	RAD TECH A # 8788 9:00am – 12:10pm
	RT 233 10:00am- 12:05am #8818 & 8819				RT 328 10:30pm – 2:30pm #8825	
RT 123 2:00pm – 5:10pm *8808 & 8810	RT 328 (wk 1-6) 2:00pm – 5:00pm #8825	RT 123 2:00pm – 5:10pm 8810	RT 233 2:00pm – 5:10pm #8818 & 8819	RT 111 LAB 2:00pm – 5:10pm # 8804		
	Wk 1-6 *RT 106* *OREINTATION* *2:00 pm – 7:00*		*Wk 1-6* *RT 106* *OREINTATION* *2:00 pm – 7:00 pm*			
	RAD TECH A 4:00 – 7:10pm	RAD TECH A 6:00 –9 :10				

Intro Classes 1st Yr Classes 2nd Year Classes Senior Classes

RADIOLOGIC TECHNOLOGY PROGRAM- ON CAMPUS- CLASS SCHEDULE – Spring 2019

MON	TUES	WED	THURS	FRI	SAT
Wks 9-16 After Spring Break	8:00 – 9:05 *RT 255 # Special Procedures & X-Sec Anat 9:30 – 11:40 RT 91 - #8562 Pathology			RT 124 -LAB Rad Posit #8580 9:00 –12:10	*RTEC A # 8548 9:00-12:10
RTEC 93* Venipuncture Lec: 1:00 – 2 :05 Lab :2:10 – 5 :20		RT 124 -Lecture # 8580/8586 1:00 – 4:10	2:00 – 5:10 RT 255 # 8598 Special Procedures	RT 124 -LAB Rad Position 1b # 8586 2:00 – 5:10	
	RTEC A # 8850 4:00 – 7:10 MBA 420	RTEC A #8856 6:00 – 9:10 MBA 420			

H) Improvement Rates (Course success by placement method, if applicable)

Retention has improved since there were changes made to the Application requirements.
In Spring 2016 the Sat. section of RTEC A was changed to Monday morning. The enrollment and retention rate remained about the same. The section was moved back to Saturday

I) Additional data compiled by faculty.

Graduation Success Rates:

Program Effectiveness Data

Bench mark:		90%		90%		75%			75%		(75%)
YEAR Complete	ECC Grads	ARRT EXAM 1st Attempt Take/ Pass	Yearly % PASS RATE	ARRT EXAM 5 Yr Ave	% Pass 5 Year Ave	% Seeking & Found Employment Within 12 mo		Employ 5 yr ave	Jobs 5 year Ave %	Complete /Entering Program	Retent Rate %(PCR)
2013	18	18/18	100%	79/79	100%	14/15	93%	56/69	81%	18/24	75%
2014	20	20/20	100%	84/84	100%	20/20	100%	66/76	86.8%	20/24	83%
2015	17	17/17	100%	83/83	100%	14/14	100% 6m	69/74	93.%	17/23	74%
2016	19	19/19	100%	89/89	100%	19/19	100%	78/82	95.1%	19/22	86%
2017	18	18/18	100%	89/89	100%	17/17	100%	83/84	98.8%	18/22	80%
2018	19	19/19	100%	93/93	100%	N/A	N/A	N/A	N/A	19/22	86%

ARRT NATIONAL RESULTS COMPARISON						RHB – STATE FLUORO	
YEAR Complete #		ECC Students % PASS RATE	ARRT National Average Pass Rate	ECC Students AVE SCORE	ARRT National Average Score	RHB Fluoro State Exam Pass Rate (1st Attempt)	Yearly FLUORO EXAM 1st Attempt # of Students Tested /PASSED (Jan-Dec) Can include 2 cohorts
2012	15	100%	93.0%	87.2%	85.3%	95.8%	24/23
2013	18	100%	89.6%	87.3%	84.1%	91.7%	11/12
2014	20	100%	~88.9%	89.5%	83.8%	100%	9/9
2015	17	100%	~88.4%	88.0%	83.4%	100%	11/11
2016	19	100%	87.2%	89.9	83.3%	83.3%	5/6
2017	18	100%	n/a	90.0	n/a	100%	19/19
2018	19	100%	n/a	89.8	n/a	n/a	N/A

J) List any related recommendations.

The program retention and success rates are doing well, and continue to improve.

Development of a Health Communications course designed to increase sensitivity regarding the health care providers' communication skills with patients; similar courses offered at other Community Colleges.

SECTION 3
Curriculum

Review and discuss the curriculum work done in the program during the past four years, including the following:

A) Provide the curriculum course review timeline to ensure all courses are reviewed at least once every 6 years.

The program regularly reviews all courses within the 6 year timeline. A table of the courses and review dates is attached as Curriculum Grid in Appendix A.

B) Explain any course additions to current course offerings. None at this time, although a Rad Tech 101 was developed as a pre-requisite course prior to applying to the program to give students some clinical introduction before committing to the program. There are problems with getting all of the students clearance "on-boarding" at the hospitals, with drug and background screening, HIPPA compliant, lab testing, physical exam etc. and this seems cost prohibitive for someone who has not yet applied to the program.

C) Explain any course deletions and inactivations from current course offerings. none

D) Describe the courses and number of sections offered in distance education. (Distance education includes hybrid classes.) All Rad Tech courses use the Canvas platform, but they all meet face to face as scheduled. The Etudes (now Canvas) has only been used to enhance the courses.

E) Discuss how well the courses, degrees, or certificates meet students' transfer or career training needs.

1. **Have all courses that are required for your program's degrees and certificates been offered during the last two years? If not, has the program established a course offering cycle?** Yes

2. **Are there any concerns regarding program courses and their articulation to courses at other educational institutions?** No concerns

3. **How many students earn degrees and/or certificates in your program? Set an attainable, measurable goal related to student completion of the program's degrees/certificates.** 100% of the students who complete the program earn the AS degree prior to completing the program. It is a requirement to sit for the ARRT exam..

4. **Are any licensure/certification exams required for program completion or career entry? If so, what is the pass rate among graduates? Set an attainable, measurable goal for pass rates and**

identify any applicable performance benchmarks set by regulatory agencies. 100% pass rate - see chart pg 15

F) List any related recommendations.

We would like to purchase more Computer based Review Software for students to better prepare them for the ARRT registry exams. While they are all passing, there has been a slight decline in the overall scores as the curriculum is focused more on the Digital Imaging.
The Software would simulate a more real-life exam that they take for the registry, and the instructor can track their progress for the subject areas that they have strengths and weakness in.

SECTION 4
Assessment of Student and Program Learning Outcomes (SLOs & PLOs)

A) Provide a copy of your alignment grid, which shows how course, program, and institutional learning outcomes are aligned. (This will be Appendix A.) done

B) Provide a timeline for your course and program level SLO assessments. (This will be Appendix B.) done

C) State the percent of course and program SLO statements that have been assessed. 100%

D) Summarize the SLO and PLO assessment results over the past four years and describe how those results led to improved student learning. Analyze and describe those changes.

In addition to the SLO and PLO assessments that are done for the college, the program has maintained an Outcomes Assessment Plan for the JRCERT accreditation (measurement tools are attached) since 2000.

Is some areas we are able to match the same SLO, PLO's and measurements for the college and the accreditation. The JRCERT accreditation has SLO and PLO measures that may also combine information from more than one course.

The following page provides a copy of the JRCERT Outcomes and Goals

JRCERT OUTCOMES ASSESSMENT OUTLINE OF GOALS & OBJECTIVES:

STUDENT LEARNING OUTCOMES:

1. **Students will be clinically competent**
   a) Students will be able to correctly position patients for quality radiographic exams.
   b) Students will apply ALARA radiation safety principles on patients, self and others.
2. **Students will demonstrate ethics and professionalism**
   a) Students will demonstrate ethical behavior with patients, self and others.
   b) Students will demonstrate professionalism with patients, self and others.
3. **Student will effectively communicate**
   a) Students will demonstrate effective communication skills with patients, staff and others
   b) Students will demonstrate good communication skills through class presentations

4. Students will demonstrate critical thinking

a) Students will evaluate radiographic images and make appropriate changes when necessary
b) Students will assess patient's condition and make appropriate modifications to the procedures based on their condition.

PROGRAM LEARNING OUTCOMES:

A. Graduates will pass certification and/or licensing examination

B. Graduates will maintain a high level of program completion/retention rates.

C. Graduates will report a overall satisfaction with the program

D. Employer will report overall satisfaction with the graduates' competency and job performance.

E. Graduates will obtain employment in radiologic technology.

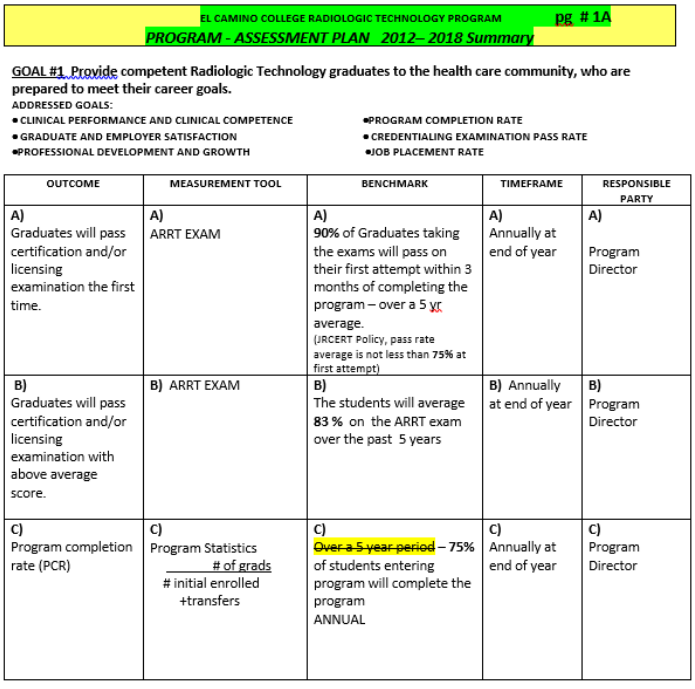
F. Students will maintain a high level of success and completion for each course.

1 The Radiologic Technology Program will evaluate and monitor program effectiveness through measurement of graduate success rates, job placement rates, annual program completion rate, graduate and employer satisfaction.

2 The Radiologic Technology program will maintain, assess and review student learning outcomes for each Radiologic Technology course.

3 The Radiologic Technology program will make available to the general public the annual results of the ARRT and State licensing exam pass rates, job placement and program completion through publication on the El Camino College, Radiologic Technology webpage: www.elcamino.edu/healthsciences/radiologictech

Samples of first pages of Outcomes Assessment for JRCERT



EL CAMINO COLLEGE RADIOLOGIC TECHNOLOGY PROGRAM pg # 1A

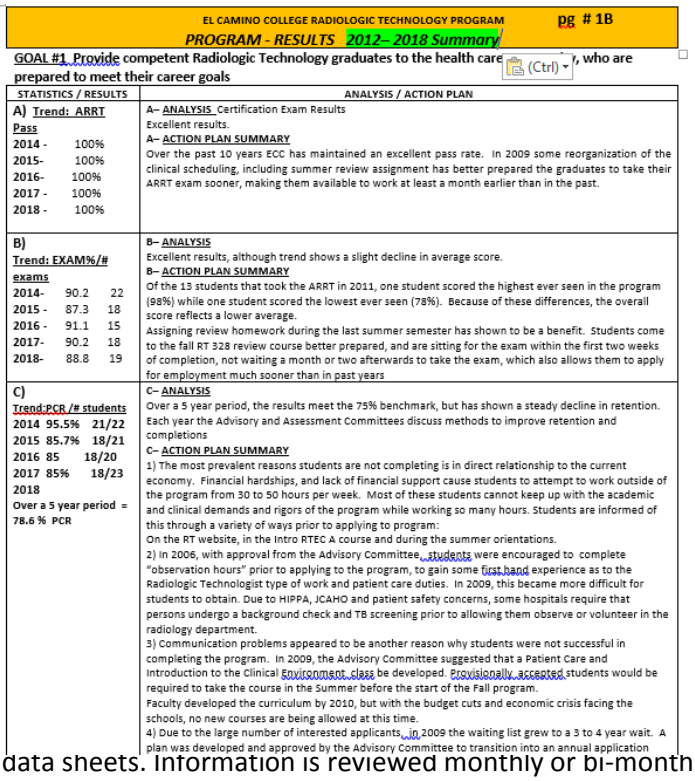
PROGRAM - ASSESSMENT PLAN 2012– 2018 Summary

GOAL #1 Provide competent Radiologic Technology graduates to the health care community, who are prepared to meet their career goals.

ADDRESSED GOALS:

- CLINICAL PERFORMANCE AND CLINICAL COMPETENCE
- GRADUATE AND EMPLOYER SATISFACTION
- PROFESSIONAL DEVELOPMENT AND GROWTH
- PROGRAM COMPLETION RATE
- CREDENTIALING EXAMINATION PASS RATE
- JOB PLACEMENT RATE

OUTCOME	MEASUREMENT TOOL	BENCHMARK	TIMEFRAME	RESPONSIBLE PARTY
A) Graduates will pass certification and/or licensing examination the first time.	A) ARRT EXAM	A) 90% of Graduates taking the exams will pass on their first attempt within 3 months of completing the program – over a 5 yr average. (JRCERT Policy, pass rate average is not less than 75% at first attempt)	A) Annually at end of year	A) Program Director
B) Graduates will pass certification and/or licensing examination with above average score.	B) ARRT EXAM	B) The students will average 83 % on the ARRT exam over the past 5 years	B) Annually at end of year	B) Program Director
C) Program completion rate (PCR)	C) Program Statistics # of grads / # initial enrolled +transfers	C) ~~Over a 5 year period~~ – 75% of students entering program will complete the program ANNUAL	C) Annually at end of year	C) Program Director



EL CAMINO COLLEGE RADIOLOGIC TECHNOLOGY PROGRAM pg # 1B

PROGRAM - RESULTS 2012– 2018 Summary

GOAL #1 Provide competent Radiologic Technology graduates to the health care ..., who are prepared to meet their career goals

STATISTICS / RESULTS	ANALYSIS / ACTION PLAN
A) Trend: ARRT Pass 2014 - 100% 2015- 100% 2016- 100% 2017 - 100% 2018 - 100%	A– ANALYSIS Certification Exam Results Excellent results. A– ACTION PLAN SUMMARY Over the past 10 years ECC has maintained an excellent pass rate. In 2009 some reorganization of the clinical scheduling, including summer review assignment has better prepared the graduates to take their ARRT exam sooner, making them available to work at least a month earlier than in the past.
B) Trend: EXAM%/# exams 2014- 90.2 22 2015 - 87.3 18 2016 - 91.1 15 2017- 90.2 18 2018- 88.8 19	B– ANALYSIS Excellent results, although trend shows a slight decline in average score. B– ACTION PLAN SUMMARY Of the 13 students that took the ARRT in 2011, one student scored the highest ever seen in the program (98%) while one student scored the lowest ever seen (78%). Because of these differences, the overall score reflects a lower average. Assigning review homework during the last summer semester has shown to be a benefit. Students come to the fall RT 328 review course better prepared, and are sitting for the exam within the first two weeks of completion, not waiting a month or two afterwards to take the exam, which also allows them to apply for employment much sooner than in past years
C) Trend:PCR /# students 2014 95.5% 21/22 2015 85.7% 18/21 2016 85 18/20 2017 85% 18/23 2018 Over a 5 year period = 78.6 % PCR	C– ANALYSIS Over a 5 year period, the results meet the 75% benchmark, but has shown a steady decline in retention. Each year the Advisory and Assessment Committees discuss methods to improve retention and completions C– ACTION PLAN SUMMARY 1) The most prevalent reasons students are not completing is in direct relationship to the current economy. Financial hardships, and lack of financial support cause students to attempt to work outside of the program from 30 to 50 hours per week. Most of these students cannot keep up with the academic and clinical demands and rigors of the program while working so many hours. Students are informed of this through a variety of ways prior to applying to program: On the RT website, in the Intro RTEC A course and during the summer orientations. 2) In 2006, with approval from the Advisory Committee, students were encouraged to complete "observation hours" prior to applying to the program, to gain some first hand experience as to the Radiologic Technologist type of work and patient care duties. In 2009, this became more difficult for students to obtain. Due to HIPPA, JCAHO and patient safety concerns, some hospitals require that persons undergo a background check and TB screening prior to allowing them observe or volunteer in the radiology department. 3) Communication problems appeared to be another reason why students were not successful in completing the program. In 2009, the Advisory Committee suggested that a Patient Care and Introduction to the Clinical Environment class be developed. Provisionally accepted students would be required to take the course in the Summer before the start of the Fall program. Faculty developed the curriculum by 2010, but with the budget cuts and economic crisis facing the schools, no new courses are being allowed at this time. 4) Due to the large number of interested applicants, in 2009 the waiting list grew to a 3 to 4 year wait. A plan was developed and approved by the Advisory Committee to transition into an annual application

collecting data by the timelines indicated in the plan and data sheets. Information is reviewed monthly or bi-monthly at

Faculty/Assessment Committee department meetings. The results are presented to the Advisory Committee members with feedback and discussion at least annually as reflected in meeting minutes. By using substantial, tangible measurement tools, including but not limited to surveys, competencies, exams, the actual level achieved can be compared to the desired level of achievement (the benchmarks) to identify what areas are consistently meeting the desired outcomes and what areas, if any, are not. If after a five year period, a goal is continually met, the program faculty and advisory committee agree that said goal could be discontinued and replaced with a new goal. The assessment information provided in the Program's JRCERT Outcomes Assessment Handbook clearly outlines the analysis of the data and the plan for continuing or discontinuing the goal to which it pertains. In addition, the sample measurement tools are attachment in the evidence section immediately following each plan.

After review of assessment data, the program has made a number of revisions/improvements in response to input from our communities of interest which is comprised of the Advisory Committee Members, Health Sciences Dean, Current Students, Graduates and Program faculty. The committee understands that not meeting goals is an issue that is important and needs to be addressed. The actions listed below which have been taken by the program are examples of how assessment has led to action and efforts to improve the program. A more complete summary is included with each assessment report in the JRCERT Outcomes Assessment Handbook.

Summary of SLO/PLO Results, Actions & Changes for the College SLO/PLO's

1. **Radiation Shielding -** A course SLO was developed to monitor radiation shielding in the lab simulations,
   The results showed a downward trend in compliance by the students, and the results fell below the benchmarks set. The faculty discussed the problem with the clinical staff and other faculty.
   As a result, new methods for reinforcing the practice of shielding were implemented in both the on campus labs and at the clinical sites.
   An annual assessment was done, and the trend showed a marked and steady improvement in the practice of radiation shielding by students in both the lab and clinical settings.

2. **Problem Solving & Improving Communication for Image Critique -** Students were demonstrating or communicating problem solving and critical thinking to the expected level that faculty felt they should be – so an SLO was developed. As part of the assessment, a new rubric was developed for both the students and faculty. This form was used for both the on campus labs and clinical image critique presentations. As a result, student began to show an improvement in the information they were presenting, demonstrating a deeper level of critical thinking and problem solving, and communicating those results better to their audience. We continued to monitor the SLO, and the results yielded that the students showed a marked improvement and have now surpassed the benchmarks for the past year. This process assessed both a course SLO, as well as a PLO for critical thinking and problem solving.
   Continuing the practice of Image Critiques in small groups offers all students a chance for input. A new rubric for grading was developed by the faculty and given to students with the expectations for the presentations. Having this guide line available has also improved the students' ability to show critical thinking, problem solving and communicate more effectively during the presentation, which has improved the overall scores.

3. **Body Mechanics, Patient Transportation techniques & Infection Control practices** – lecture was not enough for students to develop proper habits. A workshop was developed during orientation classes that had actual scenarios

with the students in the lab practicing the skills. Clinical staff came to lab to assist and provide real life scenarios.

4. **Measuring Ethical Behavior** –All RT Faculty meet with Clinical Instructors to discuss the criteria and grading for this section of the semester evaluation. New criteria were added and an agreement to the rubric and grading to include more on patient privacy concerns.

5. **Developing Standard for Imaging Technique factors with DR –** Meet with Clinical faculty to discuss these poor outcomes. The discussion included how we can address the deficiency and follow up with hospital staff for consistency. We provided some continuing education for our clinical instructors at the clinical site to train them on fundamentals of DR equipment so that they can better mentor to our students.

6. **Routes of administration of Contrast Media** – Students scored low in this area. Teaching methods were changed to improve retention of information, and discussion with clinical staff to emphasize this when students are on their Fluoro rotations. Students that scored low also were remediated. The remediation plan consisted of case scenarios and role playing to bring the students up to standard. This provided a better outcome on the second exam.

7. **Modification of exam for Patient Condition** - Using more "role play" during the practice phase of the lab along with more observation of specific needs of the patients at the clinical sites, may be contributing to the overall improvement of the results.

8. **Improving Communication Skills –** there were a couple of SLO, s measuring this skill. In the classroom, students were allowed to work in teams for their first presentation, which improved their confidence and overall presentation. The individual second presentation showed much higher results.

E) Describe how you have improved your SLO/PLO assessment process and engaged in dialogue about assessment results.

After review of assessment data, the program has made a number of revisions/improvements in response to input from our communities of interest which is comprised of the Advisory Committee Members, Health Sciences Dean, Current Students, Graduates, Program Faculty/ R.T. Assessment Committee. Program faculty understands that not meeting goals is an issue that is important and needs to be addressed. The actions listed below which have been taken by the program are examples of how assessment has led to action and efforts to improve the program. A more complete summary is included with each assessment report in the JRCERT Outcomes Assessment Handbook

1. To improve the program student retention and reduce the attrition that occurs during the first semester, a change in the application process was undertaken in 2011. In 2014 and again in 2017 more revisions were made to include a resume and cover letter to be part of the point system. A committee was developed to include RT faculty, counseling and the department dean. The changes continue to show improvement in acquiring a more qualified student demonstrating better communication skills and critical thinking.
   The change in the application process appears to have yielded a better prepared and committed student.
   a. As reflected in the Program Effectiveness Data, the Fall 2012 and 2013 entering class demonstrated a much lower attrition rate, and the results continued to improve with the new changes to the application.

2. Involving the part-time faculty and clinical instructor more with the data collection and assessment has given them a much greater buy in to the process
   a. As a result, when they realized the necessity for accuracy in their reporting, they have improved their data collection and reporting of results.
   b. The weekly reports that they submit have been more thoughtful and informative to track the student's progress or lack of progress in the clinical environment

3. Other improvement noted are included with the summaries in section "D"

F) List any related recommendations.

When the college first started the review of SLO's and PLO's it was often difficult to match with what was already being assessed and measured for our JRCERT accreditation. With time we have been able to successfully merge the outcomes so that we are not doing separate measurements and results for two bodies.

Because we are measuring some of the same SLO's and PL0's annually for the JRCERT, it would be more effective to be able to change the cycle of assessment for some of the SLO's for the school when we see a pattern where the benchmarks are consistently met.

SECTION 5
Analysis of Student Feedback

Provide a copy of any feedback reports generated by Institutional Research and Planning or your program. Review and discuss student feedback collected during the past four years including any surveys, focus groups, and/or interviews.

The program has not used IR for any student surveys in the past four years. We have, however, conducted many of our own surveys as required by accreditation. Copies of surveys are located at the end of the report.

A) Describe the results of the student survey in each of the following areas:

1. **Student Support -**
   Based on the Student/Graduate exit survey for 2014-2018 –
   93 Surveys (88% ranked good-very good)
   33/93 = 4/4 (33%) very good
   49/93 = 3/4 (52.5%) good
   13/93 = 2/3 (13.5%) fair

2. **Curriculum-** at the end of each semester a course evaluation is done. At the end of the program, students do an exit survey. Based on some of their comment, we made changes a couple of times to how the courses were offered in the Spring semester. We have come up with a schedule that works best for the students and faculty.

3. **Facilities, Equipment, and technology-** Students apprechiate that we have had the latest technology to offer them on campus. For the past 4 years we have ranked 93/93 = 4/4 (100%) as very good – satisfaction with the facilities, equipment and technology.

4. **Program Objectives** at the end of each semester a course evaluation is done. At the end of the program, students do an exit survey. Both surveys show that the courses and the program have met the objectives and expectations for students.

B) Discuss the implications of the survey results for the program.

Student Exit & Grad Survey Evaluation

Over the past ten years 99% of the students have marked 4 – that they feel well prepared. The results have always met or exceed the benchmark. The results show the benchmarks have been met with a slight increase in 2013. Part of this is attributed to the use of the new digital imaging labs – the students felt better prepared to meet the needs of the current workforce using digital equipment.

C) Discuss the results of other relevant surveys.

Employer rating of graduates skills shall be <u>></u> **3.5** on a **5 point** scale

<u>Grad Class Trend</u>

2013 - 3.7 2016 - 4.3

2014 - 4.25 2017 4.25

2015 - 4.25 2018 n/a

<u>Sectional results</u>

- 2014 rated 3.7 in Skills Knowledge and Abilities , 4.8 in Job readiness
- 2015 rated 3.4 in Skills Knowledge and Abilities, 4.3 in Job readiness
- 2016 rated 3.6 in Skills Knowledge and Abilities, 4.5 in Job readiness
- 2017 rated 3.7 in Skills Knowledge and Abilities, 4.6 in Job readiness
- 2018 rated 3.7 in Skills Knowledge and Abilities, 4.7 in Job readiness

Employer Surveys Evaluation

The results somewhat mirror the student's evaluations. Since 2007, the program has met or exceed the benchmark. The results show a steady improvement in how the employers felt that the graduates were ready for employment except for 2011. This may be in part to the lack of confidence seen by some of the graduates, and due to the downturn in the economy, not as many graduates were hired right after graduation. If more than 6 months had passed since their completion of the program, there skills level show a drop when initially hired. The marked increased in scores since 2013 can be attributed to, in part, the implementation of the new Digital Imaging system in the Radiography labs and the 100% early employment rate of the graduates

<u>Advisory Committee</u> - <u>Program Evaluation Surveys **(4.5/5 points)**</u>

- 2014 15 surveys rated Program 4.96 on a 5 point scale
- 2015 18 surveys rated Program 4.92 on a 5 point scale
- 2016 22 surveys rated Program 4.97 on a 5 point scale
- 2017 15 surveys rated Program 4.98 on a 5 point scale

Assessment of performances are also aided through Clinical site evaluations, Instructor evaluations, and Student Surveys. Ongoing evaluations and outcome assessment also include external indicators such as ARRT results and follow-up Employer and Student surveys.

When recommendations are made or indications for change are identified from the above sources, they are taken under consideration by the program faculty for review. Any curricular changes follow a specific academic process

After review and approval, catalogue, student handbooks, etc., and program changes are implemented. Clinical changes are brought back to each affiliate Clinical Instructor for approval prior to implementation.

D) List any related recommendations.

None at this time, results are exceeding benchmarks.
The program will again meet with IR to develop surveys on line for easier data collection.

Some of the survey information have been collected on line, but most are still paper form that must then be manually tabulated.

SECTION 6
Facilities and Equipment

A) Describe and assess the existing program facilities and equipment.

The Radiologic Technology Program was established in 1971. At that time, there was one classroom on campus and no lab facilities. There were two clinical sites for student training.

In the early 1980's the program was able to provide two x-ray imaging labs for students on campus with the purchase of two refurbished radiographic tubes and tables for the lab.

In 2001, with the help of various bond and grant monies, the RT Program acquired a Computed Radiography (CR) imaging system, which made them a leader in Radiographic education, by providing the newest type of image capture used in the industry on a community college campus. ECC RT's program was the first community college program in the country to acquire this type of equipment.

By 2010, the computer radiography system, (Kodak/Carestream CR 800) along with the 1980's radiographic equipment was nearing its "end of life", as there were many repair problems and in some cases, the parts were no longer available. Funding became available in 2011 to purchase a newer version CR system (CR 820) at a substantial discount to the district.

Fortunately, with another large bond acquisition, the ECC campus expansion included a new four story Math Business and Allied Health sciences (MBA) building. The fourth floor was dedicated primarily to the three health sciences programs: Radiologic Technology, Respiratory Care and Nursing.

With the move to the MBA building in Spring 2013, the CR 820 was moved to the new lab. In addition, the district purchased two new Carestream Ascend Digital Imaging Radiographic (DR) units for the new Rad Tech ionized labs, putting the ECC RT Program as the first community college on the west coast to obtain this type of equipment, and offer both CR, DR and Film screen imaging capabilities for their students. The ECC RT Program was noted as a leader in radiologic technology education. This state of the art equipment better prepared students to utilize similar equipment at the clinical sites, and become more ready for employment at the time of completion from the program. Service contracts are needed to maintain and upgrade equipment as needed. (PR2014)

At the onset of the installation of the Carestream Computer Radiography system in 2001, a partnership agreement was developed between the program and Carestream (Kodak) to help educate their field engineers about the basics of radiology and the new equipment, and in turn, Carestream would assist the program with needed software upgrades, and equipment maintenance.

This partnership initially continued with the installation of the new Digital equipment in 2013, as the program did not have the funding resources to maintain the $10,000/year service contracts needed to maintain and support the equipment and computers. This partnership would help to offset the high cost of the service agreements.

Unfortunately, with the many changes in the Carestream team, this partnership has not been utilized since 2014, and the equipment is in dire need of repairs. The Program Director is actively working towards re-instituting this partnership agreement and/or negotiating a service agreement at a reduced rate.

Regarding Equipment, there are currently 3 main issues:

- The Radiographic Imaging Equipment and Computer control systems for the Radiographic room
- The 4 classroom computers that are used to view the radiographic images via PACS
- The 22 laptop computers for student use that were purchased in 2009.

1.The equipment is now over 5 years old and has not received regular service due to the cost of the service, and not maintaining an annual service agreement. The 2 radiographic rooms have not had any preventive maintenance or service since the warranty ended. We have 2 wireless DR receptors that at one time cost $100,000. each. The connection pins for the batteries are getting loose and it is only a matter of time before they will no longer work, therefore we will not be able to create a radiographic image. The computer stations that control the radiation equipment often has to be restarted several time before it will pass the calibration standards. The X-ray equipment have many locks that are now loose and control buttons that are falling off. These tubes go through a lot of wear from the new students learning how to use them, even with the close supervision of the faculty.

2.This past year the school changed out the classroom computers to a Windows 10 platform which does not support our PACS system. The PACS (Picture Archiving and Communications System) is what sends the images that are created in the Radiography rooms – to the “viewing stations” which are the 4 student computers. Since the upgrade, the students no longer have the ability to review or critique the images that they have taken on the radiographic phantoms in the lab. When the system was working, students would send their images to the computer stations. They could study what they did correctly, review anatomy, and analyze what needed improvement. They had the ability to copy their images onto flash drives and due a more extensive review as a homework project as well. Now they only have less than a minute to view their image when it shows on the initial “Control Panel station” until it is time for the next student to make their exposure. This is hampering the students learning, and the diminishing the great resources that the students previously had. This is the first semester in positioning for the first year students. The foundation that is built with learning these skills is essential for clinical practice and each successive course they take, and they have not been able to spend an adequate amount of time with their images. We have developed some alternative learning activities, but it not the same as seeing their own images and then making the corrections needed.

3. Over the past four years, the faculty have continued to aggressively seek funding sources such as grants, CTEA funding and Strong Workforce. This enabled the program to purchase needed supplies to enhance student learning and support the mission of the college and the program.
Unfortunately this past year, the request to replace the classroom student laptops was denied. The laptop computers are over 10 years old, and are barely functioning. These computers are used on a daily basis for testing, note taking, image review and other important teaching/learning activities. Some students do not have the resources to purchase their own computers. These computers are shared amount all 3 cohorts of students: 1st years, 2nd years and seniors.

Facilities

The classroom is spacious. Having the forethought to put additional electrical outlets on the floor by the desks have been extremely useful for students to charge their computers.
The problem has been when we have 2 classes running concurrently. In the old are we had 2 classrooms. When we moved to the new building – we were limited to 1. There are 3 classes that are used by other departments. We have request scheduling well in advance. There is no room for when we may have a need come up to accomdate the a second group of students. There is one classroom that could be dedicated to just the "health sciences" programs, and the room schedule could be made available to all of the Directors, not just nursing.

B) Explain the immediate (1-2 years) needs related to facilities and equipment. Provide a cost estimate for each need and explain how it will help the program better meet its goals.

IMMEDIATE NEED

- Repair and Service of the Radiographic Imaging Equipment
- Repair and Service of the Computer control systems for the Radiographic room
- Upgrade software for the 4 classroom computers & 2 lab computers that are used to view the radiographic images via PACS
- Replace the 22 laptop computers for student use that were purchased in 2009.

Since the time the program moved to the MBA building and acquire the Digital Imaging units, requests have been placed in plan builder, annual plan, and program review for annual service contracts.

C) Explain the long-range (2-4+ years) needs related to facilities and equipment. Provide a cost estimate for each need and explain how it will help the program better meet its goals.

1. Purchase and install 2 additional flat screen TV monitors
2. Purchase 2 additional Portable units for student practice
3. Purchase 1 Digital Portable unit
4. Purchase 1 Digital Mobil C-arm Unit

1. We have increased the size of our labs over the years from 8 to 12. Ther are only 2 imaging labs. The portable units help to spread the students out around the classroom for more hands on practice.
   The small Portable units cost ~$20,000 each

2. A digital portable unit on campus would give the students an opportunity for more hands on practice prior to using the equipment at the hospitals. This would be a stress free environment. Unlike the hospital when the patients are often trauma or in critical care units.
   The Digital Portable costs ~$150,000.

3. A digital c-arm fluoroscopic unit on campus would give the students an opportunity for more hands on practice prior to using the equipment at the hospitals. This would be a stress free environment. Unlike the hospital when the patients are often trauma or in surgery or critical care units. This equipment is very complicated to operate. The surgeons are often impatient and do not want to wait for someone who is not skilled in using the equipment in the OR. We have a broken c-arm that was donated, but does not function like a current fully operational digital unit would
   Cost of Digital C-arm ~$250.000

D) List any related recommendations.

The need to repair the equipment and get the computers functional is immediate, not within 1 – 2 years.

I have been trying to get help from Carestream for over a year, but there has been a very slow response. Their stance is that since we have not been on a service contract, we are not intitled to the upgraded software, and are not as willing to try to help us as they were in the past when we had the partnership agreements. While the Dean says there are funds available, the program has been unable to get quotes from the vendor. I have contacted people all the way to the Vice President seeking help. We need a quote for service to get the repairs done and the computers upgraded. Keeping a service contract would alleviate these issues

SECTION 7
Technology and Software

In our program, Section 6 & 7 overlap – please see Section 6

A) Describe and assess the adequacy and currency of the technology and software used by the program.

In our program, Section 6 & 7 overlap –

Regarding Equipment, there are currently 3 main issues:

- The Radiographic Imaging Equipment and Computer control systems for the Radiographic room
- The 4 classroom computers that are used to view the radiographic images via PACS
- The 22 laptop computers for student use that were purchased in 2009.

B) Explain the immediate (1-2 years) needs related to technology and software. Provide a cost estimate for each need and explain how it will help the program better meet its goals.

1. The flat screen monitors enable the students to view the images while practing the postioning – they can relate what they are doing to what they should be viewing on the human body. The large screen enables more students to view at the same time.
   The monitors cost ~$1000./ each
   The installation and wiring from an outside vendor cost ~$1300.00

2. Video cameras to record the simulation for student review & feedback
   Cost ~$300.00

3. Simulation software for Student Review for Registry
   Cost ~ $90/student

4. Upgrade simulation positioning software for current computers
   Cost ~ $1000.

C) Explain the long-range (2-4+ years) needs related to technology and software. Provide a cost estimate for each need and explain how it will help the program better meet its goals.

- Purchase of on-line tutorials that will not change as computer platforms change
  Cost ~$ 2000.00

D) List any related recommendations. None at this time

SECTION 8
Staffing

A) Describe the program's current staffing, including faculty, administration, and classified staff.

The Radiologic Technology Program has three full time positions;

- 1 - Full Time Program Director,
- 1 - Full time Clinical Coordinator
- 1 - Full Time Faculty member.
    - Seven part-time faculty
        - Six part time faculty work 15% of a load (3.4 hrs/lab) per week
        - One part time Faculty works 50% of a load (6.8 hrs/lab) & 1 lecture per week.

Most of the part time faculty work hours are limited due to their other full time commitments.

The adjunct faculty are referred to as Clinical Educators.

Each of the clinical educators are assigned to at least one of the eight clinical sites, and visit them on a weekly basis. The specific staffing schedule is determined by.

There are currently eight clinical education centers affiliated with the Radiologic Technology program and recognized by the JRCERT.

The three full time Radiologic Technology program faculty teaching load requirements are somewhat consistent with the other allied health faculty.

In mid Spring 2017, one full- time faculty (Clinical Coordinator) gave notice, then left on a medical leave for the remainder of the semester, leaving the Program Director and other Faculty person to pick up the load and work responsibilies. Due to the hiring freeze, we were not able to hire another full time faculty until Fall 2018, which cause an extreme over-load on both remaining faculty. The 2nd faculty took on the role as the Clinical Coordinator. Both faculty had over 155% load for the Fall 2017 semesters and an additional high loads Spring 2018 semesters

All full time faculty maintain a 100% teaching load, with overload that varies from 20-30% every semester. With the addition of more part time faculty, the overload has been reduced from previous years where it was as high as 50%.

The administrative structure of the college and collective bargaining agreement does not identify the responsibilities of Radiology and Respiratory Care Program Directors. Administration had identified those responsibilities as above and beyond the requirements of a typical faculty member. A stipend was mutually agreed upon by the previous Radiologic Technology Program Director as compensation for those responsibilities in 1990 and has just recently increase in Fall 2017.

1. While the stipends was increased, the amount of money does not adequately compensate for the amount of time spent on administration of the program. There still needs to be adequate release time, as there are not enough hours in the day or week to keep up with a full time and overload teaching responsibilities, accreditation and administration of the program within a reasonable amount of time and workload.

   In comparison to other faculty in the health sciences at El Camino College:

1. The ECC Nursing Director is an administrative position, therefore, there are no teaching assignments for the Director of Nursing. There were two nursing faculty identified Assistant Directors with 50 % release time each. While the student population is larger with the nursing program, the amount of paperwork required for clinical clearance and accreditation needs are very similar in size.

2. In addition, the Nursing Department are allotted two full time and one part time clerical office staff, along with two student workers. The Radiology program utilizes two student workers (2nd year RT students) to help with the positioning lab, and in the past month was able to hire a student worker through the work study program on campus, but their hours and duties are very limited.

3. The Nursing Program students do not go to clinical during the summer semester, while the Radiology students have summer clinical hours, requiring faculty assignments for the Program Director and Clinical Coordinator, along with Full time Faculty member. On occasion, some of the part time faculty will also help fill the loads.

4. In comparison to other California Radiology Programs - The Program Director at LACC and Merritt College receives 100% release time. Cypress College & Long Beach College receives 40-50% release time. Chaffey College receives 30% release time, a $25,000/ year stipends, in addition to full time clerical support.

5. ECC faculty in other areas of the campus have reassigned and or stipends pay up to 70%. (Contract pg 52-53)

The college identifies the position of Program Director as Program Coordinator. There is no identification of the Clinical Coordinator role as far as the additional duties required. This was also identified in the Program Review as needing attention:

At the same time the stipends we

Currently there is no release time or any form of compensation for the position of Clinical Coordinator aside from their faculty assignment.

The program has an adequate number of faculty to meet program needs and accreditation requirements, teach the courses and supervise the students at the clinical facilities, but at the cost of an extreme workload for both the Program Director and Clinical Coordinator.

The additional responsibilities required for both the administration and accreditation of the program, and increase in paperwork demands from the clinical sites that continue to grow over the past few years has placed a burden on both the Program Director and Clinical Coordinator in the additional time required to fulfill these duties.

The Clinical Coordinator did begin to receive a stipends in 2017.

By allowing additional release time for the Program Director the students would be better served, while providing a reasonable work load for the program faculty, commensurate with other faculty on campus and on neighboring campuses and programs.

Clerical:

During our site visit by the JRCERT we were sited in 2.2 – inadequate support staffing. While we have obtained a "clerical helper" for a limited number of hours, the division staff is not always available to assist with some of our needs. Addition of someone in the Health Sciences office that would help for both Radiology and Respiratory Care would alleviate much of the clerical work that is done by the Program faculty, to allow them time for other program matters.

B) Explain and justify the program's staffing needs in the immediate (1-2 years) and long-term (2-4+ years). Provide cost estimates and explain how the position/s will help the program better meet its goals.

Current Assistant Clerical is limited to $5,000 per year at &10.00/hr

C) List any related recommendations. None at this time

SECTION 9
Direction and Vision

A) Describe relevant changes within the academic field/industry. How will these changes impact the program in the next four years?

Upgrading the Digital equipment and software should help us continue to meet the needs of the students and the community

B) Explain the direction and vision of the program and how you plan to achieve it.

- Keep service contracts to keep equipment in good order and computers up to date
- Provide laptop computers in the classroom for testing, and image review
- Some clinical sites are asking to add some of the out-patient facilities as training sites, we will file the applications with the JRCERT. The cost of adding each site is $250.

C) List any related recommendations.

SECTION 10
Prioritized Recommendations

A) Provide a single, prioritized list of recommendations and needs for your program/ department (drawn from your recommendations in sections 2-8). Include cost estimates and list the college strategic initiative that supports each recommendation. Use the following chart format to organize your recommendations.

	Recommendations	Cost Estimate	Strategic Initiatives
1.	Yearly Service Agreements	$10,000	A,B,C,D,E,F
2.	Regular upgrades to Rad System software	Included ?	A,B,C,D,E,F
3.	Program Director Release Time	unknown	A,B,E
4.	Flat Screen Tvs-s 2 more + installation	$5500.00	A,B,F
5.	More Clerical assistance (double amount of hours per week)	Increase 2x	B,E
6.	2 Mobile- Portable Equipment	$30,000	A,B,F
7.	Video cameras for filming simulations	$300.00	A,B,F
8.	Digital C-arm	$250,000	A,B,F
9.			
10.			

B) Explain why the list is prioritized in this way.

- Must get equipment operational
- Program Director can be more efficient and effective as a leader and instructor with some release time, and more assistance with clerical support
- Equipment can help students in the classroom with learning the concepts

Appendix A
ALIGNMENT GRIDS

HEALTH SCIENCES AND ATHLETICS
Institutional (ILO), Program (PLO), and Course (SLO) Alignment

Program: **Radiologic Technology**	**Number of Courses:** 19	**Date Updated:** 09.08.2014	**Submitted by:** R. Serr, ext. 3811

ILOs	**1. Critical Thinking** *Students apply critical, creative and analytical skills to identify and solve problems, analyze information, synthesize and evaluate ideas, and transform existing ideas into new forms.*	**2. Communication** *Students effectively communicate with and respond to varied audiences in written, spoken or signed, and artistic forms.*	**3. Community and Personal Development** *Students are productive and engaged members of society, demonstrating personal responsibility, and community and social awareness through their engagement in campus programs and services.*	**4. Information Literacy** *Students determine an information need and use various media and formats to develop a research strategy and locate, evaluate, document, and use information to accomplish a specific purpose. Students demonstrate an understanding of the legal, social, and ethical aspects related to information use*

SLO-PLO-ILO ALIGNMENT NOTES:

Mark boxes with an 'X' if: SLO/PLO is a major focus or an important part of the course/program; direct instruction or some direct instruction is provided; students are evaluated multiple times (and possibly in various ways) throughout the course or are evaluated on the concepts once or twice within the course.

DO NOT mark with an 'X' if: SLO/PLO is a minor focus of the course/program and some instruction is given in the area but students are not formally evaluated on the concepts; or if the SLO/PLO is minimally or not at all part of the course/program.

PLOs	**PLO to ILO Alignment** *(Mark with an X)*			
	1	**2**	**3**	**4**
PLO #1 Entry-Level Practitioners Radiologic Technology Program graduates will be clinically competent to perform as entry-level practitioners and produce diagnostic quality radiographic images.	X	X		
PLO #2 Applying Safety Principles Radiologic Technology Program graduates will be able to perform medical imaging procedures in an ethical and caring manner and apply radiation safety principles on patients, self and others.	X	X		
PLO #3 Communication and Problem Solving Radiologic Technology Program graduates will be able to demonstrate effective communication, critical thinking and problem solving skills.	X	X		

PLO #4 JRCERT The Radiologic Technology Program will evaluate and assess the following on an annual basis as required by JRCERT accreditation: a. Graduates will pass certification and/or licensing examination b. Graduates will maintain a high level of program completion/retention rates. c. Graduates will report a overall satisfaction with the program d. Employer will report overall satisfaction with the graduates' competency and job performance. e. Graduates will obtain employment in radiologic technology. f. Students will maintain a high level of success and completion for each course	X	X	X	

SLOs	SLO to PLO Alignment (Mark with an X)				COURSE to ILO Alignment (Mark with an X)			
	P1	P2	P3	P4	1	2	3	4
MEDT 1 Medical Terminology: SLO #1 Formulate Students will formulate medical terms by properly arranging prefixes, suffixes, word roots and combining forms.			X					
MEDT 1 Medical Terminology: SLO #2 Identify Terms Students will identify medical terms as relates to the body systems, including Greek and Latin terms.			X				X	
MEDT 1 Medical Terminology: SLO #3 Abbreviations Students will list appropriate medical abbreviations and their usage.			X					
RTEC 104 Clinical Education 1: SLO #1 Body Mechanic Students will demonstrate correct principles of body mechanics in the clinical setting.	X							
RTEC 104 Clinical Education 1: SLO #2 Equipment Students will demonstrate the proper use of radiographic equipment in the clinical setting.	X				X	X		
RTEC 104 Clinical Education 1: SLO #3 Ethical Behavior Students will demonstrate ethical behavior with patients, self and others.		X						
RTEC 106 Clinical Experience 1: SLO #1 IR Sizes Students will identify various types and sizes of image receptors and detectors.	X							
RTEC 106 Clinical Experience 1: SLO #2 Radiation Safety Basics Student will demonstrate knowledge of radiation protection and application of these principles to patients, self and staff.		X			X	X	X	
RTEC 106 Clinical Experience 1: SLO #3 Transporting Patients Students demonstrate the proper transporting technique via wheelchair and gurney.		X	X					
RTEC 107 Clinical Experience 2: SLO #1 Universal Precautions Students will demonstrate the proper use of protective devices for patient safety during the radiographic procedures.	X	X						
RTEC 107 Clinical Experience 2: SLO #2 Upper Extremity Techniques Students will identify appropriate exposure factors on a control panel for upper extremities.	X				X	X	X	
RTEC 107 Clinical Experience 2: SLO #3 Infection Control Methods Students will apply basic infection control methods.			X					
RTEC 109 Clinical Experience 3: SLO #1 Contrast Routes Students will identify the routes of administering contrast media for fluoroscopic examinations.		X						
RTEC 109 Clinical Experience 3: SLO #2 Patient Care Students will apply patient care principles while positioning patients for radiographic examinations.	X	X			X	X		
RTEC 109 Clinical Experience 3: SLO #3 Radiation Safety Beginning Students will apply radiation safety principles on patients, self, and other members of the health care team.		X						

SLOs	SLO to PLO Alignment *(Mark with an X)*				COURSE to ILO Alignment *(Mark with an X)*			
	P1	P2	P3	P4	1	2	3	4
RTEC 111 Fundamentals Radiologic Technology: SLO #1 Exposure Factors Students will evaluate how exposure factors selected by the technologist can affect radiographic quality, density and contrast on a radiographic image.	X	X			X	X		
RTEC 111 Fundamentals Radiologic Technology: SLO #2 Control of Scatter Students will assess various methods to control scatter radiation.	X							
RTEC 111 Fundamentals Radiologic Technology: SLO #3 Equipment Manipulations Students will analyze radiographic images for diagnostic quality contrast, density and recorded detail. The student will be able to make appropriate adjustments of the x-ray equipment to correct any errors with the image	X							
RTEC 123 Radiographic Positioning 1A: SLO #1 Radiation Safety & Shielding Students will apply radiation safety by using appropriate shielding with a lead apron during an on campus simulated lab evaluation.		X			X	X		
RTEC 123 Radiographic Positioning 1A: SLO #2 Radiographic Positioning Students demonstrate correct positioning of patients for quality radiographic exams of the Chest, Upper and Lower Extremities.	X	X						
RTEC 123 Radiographic Positioning 1A: SLO #3 Patient Communication Students will demonstrate effective communication skills with patients, self and others.		X						
RTEC 124 Radiographic Positioning 1B: SLO #1 ALARA & Shielding Students will apply ALARA principles of radiation safety by assessing patient risk to radiation exposure during a radiographic exam, and appropriately shield the patient during the simulated positioning lab evaluation.		X			X	X		
RTEC 124 Radiographic Positioning 1B: SLO #2 Radiographic Positioning Students will demonstrate correct positioning of patients for quality radiographic exams of the Abdomen, Thorax, Pelvis, Spine and Radiographic Contrast studies to include: BE,UGI, IVP, Cystography and ERCP.	X	X						
RTEC 124 Radiographic Positioning 1B: SLO #3 Modification for Patient Condition Students will assess patient's condition and pathology, and then make appropriate modifications to the procedures based on their condition.		X						
RTEC 216 Clinical Education 2: SLO #1 Trauma and ER Students will revise methods of performing a radiographic examination for trauma and emergency room patients.	X				X	X		
RTEC 216 Clinical Education 2: SLO #2 Radiographic Analysis Students will evaluate radiographic images and make appropriate changes when necessary.	X							
RTEC 216 Clinical Education 2: SLO #3 Radiation Protection Students will apply ALARA (as low as reasonably achievable) radiation safety principles on patients, self and other members of the health care team.		X						

SLOs	SLO to PLO Alignment *(Mark with an X)*				COURSE to ILO Alignment *(Mark with an X)*			
	P1	P2	P3	P4	1	2	3	4
RTEC 217 Clinical Experience 4: SLO #1 Low Exposure Students will employ the lowest radiation exposure possible to produce quality diagnostic images.	X							
RTEC 217 Clinical Experience 4: SLO #2 Infection Control Students will demonstrate proper protocols for infection control.		X			X	X		
RTEC 217 Clinical Experience 4: SLO #3 Cardinal Rules Students will apply the cardinal rules of radiation safety principles on patients, self and others.		X						
RTEC 218 Clinical Experience 5: SLO #1 Adaptation in Clinical Students will adapt to changes in varying clinical situations.	X							
RTEC 218 Clinical Experience 5: SLO #2 Contrast Precautions Students will compare and contrast the precautions, use and handling associated with contrast agents.		X			X	X		
RTEC 218 Clinical Experience 5: SLO #3 ALARA Students will apply ALARA radiation safety principles on patients, self and others *ALARA = As Low As Reasonably Achievable.		X						
RTEC 220 Clinical Experience 6: SLO #1 Effective Communication Students will demonstrate effective communication in written, oral and non-verbal communication with patients, family and hospital		X						
RTEC 220 Clinical Experience 6: SLO #2 Radiation Safety Advanced Students will apply ALARA (as low as reasonably achievable) radiation safety principles on patients, self and other members of health care team.		X			X	X		
RTEC 220 Clinical Experience 6: SLO #3 Adapt to PT Condition Students will assess patient's condition and make appropriate modifications to the examination based on their condition.	X							
RTEC 233 Radiologic Positioning 2: SLO #1 Radiographic Skull Positioning Students will demonstrate positioning a patient in the various positions needed to produce diagnostic quality radiographs in skull imaging.	X							
RTEC 233 Radiologic Positioning 2: SLO #2 Radiographic Skull Image Evaluation Students will analyze radiographic images of the skull, recognize and identify any errors and accurately correct for the positioning errors.	X	X			X	X		
RTEC 233 Radiologic Positioning 2: SLO #3 Radiographic Skull Anatomy and Positioning Students will analyze cranial anatomy and how it relates to proper positioning of the skull during radiographic exams.		X						

SLOs	SLO to PLO Alignment *(Mark with an X)*				COURSE to ILO Alignment *(Mark with an X)*			
	P1	P2	P3	P4	1	2	3	4
RTEC 244 Radiation Physics, Equipment, and Safety: SLO #1 Comparing Techniques for Imaging Systems The student will formulate radiographic techniques and compare exposure differences for 3 radiographic examination (Ex: chest, lumbar spine and knee), using digital and film screen imaging systems.	X							
RTEC 244 Radiation Physics, Equipment, and Safety: SLO #2 Patient Dose and Techniques The student will calculate the radiation exposure levels to the patient for 3 types of imaging systems (film screen, DR and CR) and compare and contrast the relationship of the imaging systems to patient dose.	X				X	X		
RTEC 244 Radiation Physics, Equipment, and Safety: SLO #3 Biologic Effect of Radiation Exposure Students will describe the acceptable radiation dose limits for patients and radiation workers, and then analyze the biologic effects to humans that receive an overexposure.		X						
RTEC 255 Advanced Imaging and Special Procedures: SLO #1 Radiographic Special Procedures Students will analyze Radiographic Special Procedures and new trends in imaging modalities. Students will be able to research, write and give an oral presentation on a topic relating to "Special Imaging Modality" and new trends in imaging.	X	X						
RTEC 255 Advanced Imaging and Special Procedures: SLO #2 Communication Skills Students will demonstrate effective communication skills related to the imaging modalities and equipment used for Radiographic Special Procedures.		X			X	X		
RTEC 255 Advanced Imaging and Special Procedures: SLO #3 Radiographic Quality Assurance Students will describe the purpose of Radiographic Quality Assurance and Quality Control and relate how it affects patient care.		X						
RTEC 328 Clinical Experience 7: SLO #1 Professionalism The Student will demonstrate professionalism with patients, self and others		X	X					
RTEC 328 Clinical Experience 7: SLO #2 Problem Solving for Image Critique Students will evaluate radiographic images and make appropriate changes when necessary to produce quality diagnostic images.	X				X	X	X	
RTEC 328 Clinical Experience 7: SLO #3 Radiographic Techniques Students will employ radiographic techniques that produce quality diagnostic images using the lowest patient dose while maintaining good ALARA (as low as reasonably achievable) radiation safety principles on patients.	X	X						
RTEC 91 Radiographic Pathology: SLO #1 Pathogenesis and Etiology Students will recall the pathogenesis and etiology of diseases commonly diagnosed with medical imaging.		X						
RTEC 91 Radiographic Pathology: SLO #2 Pathology Terminology Students will define common terminology associated with the study of disease.		X			X			
RTEC 91 Radiographic Pathology: SLO #3 Pathology Identification Students will identify pathologies that are common to the various body systems.		X						

SLOs	SLO to PLO Alignment *(Mark with an X)*				COURSE to ILO Alignment *(Mark with an X)*			
	P1	P2	P3	P4	1	2	3	4
RTEC 93 Venipuncture and Pharmacolgy for the Radiologic Technologist: SLO #1 Contrast Media Reaction The student will analyze the current medical history of the patient and assess the safety of the patient to receive a contrast media injection and their risk level for an adverse reaction.		X			X	X		
RTEC 93 Venipuncture and Pharmacolgy for the Radiologic Technologist: SLO #2 Contrast Dose Calculations Students will formulate contrast dose calculations for adult and pediatric patients	X							
RTEC 93 Venipuncture and Pharmacolgy for the Radiologic Technologist: SLO #3 Proper Vein Locations Students will locate the common veins and sites of injection for a venipuncture injection of contrast media by demonstrating a "flash back" with a butterfly and angio catheter needle		X						
RTEC A Introduction to Radiologic Technology: SLO #1 Radiographic Protection Students will analyze different methods to reduce radiation dose to the patient in the radiology department.		X			X	X		
RTEC A Introduction to Radiologic Technology: SLO #2 Radiographic Quality Students will explain the concepts of contrast and density of a radiograph.		X						
RTEC A Introduction to Radiologic Technology: SLO #3 Radiation in Matter Students will differentiate between the 5 photon interactions in matter by describing the origin of the interaction and its effect on the body.	X							

Appendix B
SLO/PLO TIMELINES

El Camino Community College

PLO ASSESSSEMENT TIMELINES – 4 YEAR REPORT

ECC – Health Sciences & Athletics Division

RADIOLOGIC TECHNOLOGY

PLO ASSESSMENT	PLO NAME	PLO
2014-15 (Fall 2014)	PLO #1 Entry-Level Practitioners	Radiologic Technology Program graduates will be clinically competent to perform as an entry-level practitioners and produce diagnostic quality radiographic images
2015-16 (Fall 2015)	PLO #2 Applying Safety Principles	Radiologic Technology Program graduates will be able to perform medical imaging procedures in an ethical and caring manner and apply radiation safety principles on patients, self and others.
2016-17 (Fall 2016)	PLO #3 Communication and Problem Solving	Radiologic Technology Program graduates will be able to demonstrate effective communication, critical thinking and problem solving skills.
ANNUAL REVIEW 2014-15 (Fall 2014) 2015-16- (Fall 2015) 2016-17 (Fall 2016)	PLO #4 JRCERT	The Radiologic Technology Program will evaluate and assess the following on an annual basis as required by JRCERT accreditation: a. Graduates will pass certification and/or licensing examination b. Graduates will maintain a high level of program completion/retention rates. c. Graduates will report a overall satisfaction with the program d. Employer will report overall satisfaction with the graduates' competency and job performance. e. Graduates will obtain employment in radiologic technology. e. Students will maintain a high level of success and completion for each course

COURSE SLO ASSESSMENT 4-YEAR TIMELINE REPORT (ECC)

HEALTH SCIENCES AND ATHLETICS DIVISION - RADIOLOGIC TECHNOLOGY

Course SLO Assessment Cycle	Course ID	Course Name	Course SLO Title	Course SLO Statement
2014-15 (Fall 2014)	ECC: RTEC 244	Rad Physics, Equip/Safety	SLO #2 Patient Dose and Techniques	The student will calculate the radiation exposure levels to the patient for 3 types of imaging systems (film screen, DR and CR) and compare and contrast the relationship of the imaging systems to patient dose.
2014-15 (Fall 2014)	ECC: RTEC 328	Clinical Experience 7	SLO #2 Problem Solving for Image Critique	Students will evaluate radiographic images and make appropriate changes when necessary to produce quality diagnostic images.
2014-15 (Spring 2015)	ECC: MED TECH 1	Medical Terminology	SLO #2 Identify Terms	Students will identify medical terms as relates to the body systems, including Greek and Latin terms.
2014-15 (Spring 2015)	ECC: RTEC 107	Clinical Experience 2	SLO #2 Upper Extremity Techniques	Students will identify appropriate exposure factors on a control panel for upper extremities.
2014-15 (Spring 2015)	ECC: RTEC 124	Radiographic Positioning 1B	SLO #3 Modification for Patient Condition	Students will assess patient's condition and pathology, and then make appropriate modifications to the procedures based on their condition.
2014-15 (Spring 2015)	ECC: RTEC 218	Clinical Experience 5	SLO #1 Adaptation in Clinical	Students will adapt to changes in varying clinical situations.
2014-15 (Spring 2015)	ECC: RTEC 255	Adv Imaging/Special Procd	SLO #3 Radiographic Quality Assurance	Students will describe the purpose of Radiographic Quality Assurance and Quality Control and relate how it affects patient care.
2014-15 (Spring 2015)	ECC: RTEC 91	Radiographic Pathology	SLO #1 Pathogenesis and Etiology	Students will recall the pathogenesis and etiology of diseases commonly diagnosed with medical imaging.
2014-15 (Spring 2015)	ECC: RTEC 93	Venipnctre/Pharmacolgy Rad Tec	SLO #3 Proper Vein Locations	Students will locate the common veins and sites of injection for a venipuncture injection of contrast media by demonstrating a "flash back" with a butterfly and angio catheter needle
2014-15 (Spring 2015)	ECC: RTEC A	Intro-Radiologic Tech	SLO #2 Radiographic Quality	Students will explain the concepts of contrast and density of a radiograph.
2014-15 (Summer 2015)	ECC: RTEC 104	Clinical Education 1	SLO #1 Body Mechanic	Students will demonstrate correct principles of body mechanics in the clinical setting.
2014-15 (Summer 2015)	ECC: RTEC 109	Clinical Experience 3	SLO #1 Contrast Routes	Students will identify the routes of administering contrast media for fluoroscopic examinations.
2014-15 (Summer 2015)	ECC: RTEC 216	Clinical Education 2	SLO #2 Radiographic Analysis	Students will evaluate radiographic images and make appropriate changes when necessary.
2014-15 (Summer 2015)	ECC: RTEC 220	Clinical Experience 6	SLO #3 Adapt to PT Condition	Students will assess patient's condition and make appropriate modifications to the examination based on their condition.
2015-16 (Fall 2015)	ECC: RTEC 106	Clinical Experience 1	SLO #3 Transporting Patients	Students demonstrate the proper transporting technique via wheelchair and gurney.
2015-16 (Fall 2015)	ECC: RTEC 111	Fundamentals Rad Tech I	SLO #3 Equipment Manipulations	Students will analyze radiographic images for diagnostic quality contrast, density and recorded detail. The student will be able to make appropriate adjustments of the x-ray equipment to correct any
2015-16 (Fall 2015)	ECC: RTEC 123	Radiographic Positioning 1A	SLO #1 Radiation Safety & Shielding	Students will apply radiation safety by using appropriate shielding with a lead apron during an on campus simulated lab diagnostic quality contrast, density and recorded detail.

Course SLO Assessment Cycle	Course ID	Course Name	Course SLO Title	Course SLO Statement
				to make appropriate adjustments of the x-ray equipment to correct any errors with the image.
15-16 (Fall 2015	ECC: RTEC 217	Clinical Experience 4	SLO #3 Cardinal Rules	Students will apply the cardinal rules of radiation safety principles on patients, self and others.
2015-16 (Fall	ECC: RTEC	Radiographic Positioning	SLO #3 Radiographic Skull	Students will analyze cranial anatomy and how it relates to proper
2015-16 (Fall 2015)	ECC: RTEC 244	Rad Physics, Equip/Safety	SLO #3 Biologic Effect of Radiation Exposure	Students will describe the acceptable radiation dose limits for patients and radiation workers, and then analyze the biologic effects to humans that receive an overexposure.
2015-16 (Fall	ECC: RTEC	Clinical Experience 7	SLO #3 Radiographic	Students will employ radiographic techniques that produce quality diagnostic images using the lowest patient dose while maintaining good ALARA (as low as reasonably achievable)
2015-16 (Spring 2016)	ECC: MED TECH 1	Medical Terminology	SLO #3 Abbreviations	Students will list appropriate medical abbreviations and their usage.
2015-16 (Spring	ECC: RTEC	Clinical Experience 2	SLO #3 Infection Control	Students will apply basic infection control
2015-16 (Spring 2016)	ECC: RTEC 124	Radiographic Positioning 1B	SLO #1 ALARA & Shielding	Students will apply ALARA principles of radiation safety by assessing patient risk to radiation exposure during a radiographic exam, and appropriately shield the patient during the simulated positioning lab evaluation.
2015-16 (Spring	ECC: RTEC	Clinical Experience 5	SLO #3 ALARA	Students will apply ALARA radiation safety principles on patients, self
2015-16 (Spring 2016)	ECC: RTEC 255	Adv Imaging/Special Procd	SLO #1 Radiographic Special Procedures	Students will analyze Radiographic Special Procedures and new trends in imaging modalities.nts will be able to research, write and give an oral presentation on a topic relating to “Special Imaging Modality” and new trends in imaging.
2015-16 (Spring	ECC: RTEC 91	Radiographic Pathology	SLO #2 Pathology Terminology	Students will define common terminology associated with the study of
2015-16 (Spring 2016)	ECC: RTEC 93	Venipnctre/Pharmacolgy Rad Tec	**SLO #1 Contrast Media Reaction**	**The student will analyze the current medical history of the patient and assess the safety of the patient to receive a contrast media injection and their risk level for an adverse reaction.**
2015-16 (Spring	ECC: RTEC A	Intro-Radiologic Tech	SLO #3 Radiation in Matter	Students will differentiate between the 5 photon interactions in matter
2015-16 (Summer 2016)	ECC: RTEC 104	Clinical Education 1	SLO #3 Ethical Behavior	Students will demonstrate ethical behavior with patients, self and others.
2015-16 (Summer	ECC: RTEC 109	Clinical Experience 3	SLO #3 Radiation Safety	Students will apply radiation safety principles on patients, self, and

2015-16 (Summer 2016)	ECC: RTEC 216	Clinical Education 2	SLO #3 Radiation Protection	Students will apply ALARA (as low as reasonably achievable) radiation safety principles on patients, self and other members of the health care team.
2015-16 (Summer	ECC: RTEC 220	Clinical Experience 6	SLO #2 Radiation Safety	Students will apply ALARA (as low as reasonably

Course SLO Assessment Cycle	Course ID	Course Name	Course SLO Title	Course SLO Statement
2016)			Advanced	radiation safety principles on patients, self and other members of health care team.
2016-17 (Fall 2016)	ECC: RTEC 106	Clinical Experience 1	SLO #2 Radiation Safety Basics	Student will demonstrate knowledge of radiation protection and application of these principles to patients, self and staff.
2016-17 (Fall 2016)	ECC: RTEC 111	Fundamentals Rad Tech I	SLO #1 Exposure Factors	Students will evaluate how exposure factors selected by the technologist can affect radiographic quality, density and contrast on a radiographic image.
2016-17 (Fall 2016)	ECC: RTEC 123	Radiographic Positioning 1A	SLO #2 Radiographic Positioning	Students demonstrate correct positioning of patients for quality radiographic exams of the Chest, Upper and Lower Extremities.
2016-17 (Fall 2016)	ECC: RTEC 217	Clinical Experience 4	SLO #1 Low Exposure	Students will employ the lowest radiation exposure possible to produce quality diagnostic images.
2016-17 (Fall 2016)	ECC: RTEC 233	Radiographic Positioning 2	SLO #1 Radiographic Skull Positioning	Students will demonstrate positioning a patient in the various positions needed to produce diagnostic quality radiographs in skull imaging.
2016-17 (Fall 2016)	ECC: RTEC 244	Rad Physics, Equip/Safety	SLO #1 Comparing Techniques for Imaging Systems	The student will formulate radiographic techniques and compare exposure differences for 3 radiographic examination (Ex: chest, lumbar spine and knee), using digital and film screen imaging systems.
2016-17 (Fall 2016)	ECC: RTEC 328	Clinical Experience 7	SLO #1 Professionalism	The Student will demonstrate professionalism with patients, self and others
2016-17 (Spring 2017)	ECC: MED TECH 1	Medical Terminology	SLO #1 Formulate	Students will formulate medical terms by properly arranging prefixes, suffixes, word roots and combining forms.
2016-17 (Spring 2017)	ECC: RTEC 107	Clinical Experience 2	SLO #1 Universal Precautions	Students will demonstrate the proper use of protective devices for patient safety during the radiographic procedures.
2016-17 (Spring 2017)	ECC: RTEC 124	Radiographic Positioning 1B	SLO #2 Radiographic Positioning	Students will demonstrate correct positioning of patients for quality radiographic exams of the Abdomen, Thorax, Pelvis, Spine and Radiographic Contrast studies to include: BE,UGI, IVP, Cystography and ERCP.
2016-17 (Spring 2017)	ECC: RTEC 218	Clinical Experience 5	SLO #2 Contrast Precautions	Students will compare and contrast the precautions, use and handling associated with contrast agents.
2016-17 (Spring 2017)	ECC: RTEC 255	Adv Imaging/Special Procd	SLO #2 Communication Skills	Students will demonstrate effective communication skills related to the imaging modalities and equipment used for Radiographic Special Procedures.
2016-17 (Spring 2017)	ECC: RTEC 93	Venipnctre/Pharmacolgy Rad Tec	SLO #2 Contrast Dose Calculations	Students will formulate contrast dose calculations for adult and pediatric patients
2016-17 (Spring 2017)	ECC: RTEC A	Intro-Radiologic Tech	SLO #1 Radiographic Protection	Students will analyze different methods to reduce radiation dose to the patient in the radiology department.
2016-17 (Summer 2017)	ECC: RTEC 104	Clinical Education 1	SLO #2 Equipment	Use Clinically Students will demonstrate the proper use of radiographic equipment in the clinical setting
2016-17 (Summer	ECC: RTEC 109	Clinical Experience 3	SLO #2 Patient Care	Students will apply patient care principles while positioning patients

Course SLO Assessment Cycle	Course ID	Course Name	Course SLO Title	Course SLO Statement
2017)				for radiographic examinations
2016-17 (Summer 2017)	ECC: RTEC 216	Clinical Education 2	SLO #1 Trauma and ER	Students will revise methods of performing a radiographic examination for trauma and emergency room patients.
2016-17 (Summer 2017)	ECC: RTEC 220	Clinical Experience 6	SLO #1 Effective Communication	Students will demonstrate effective communication in written, oral and non-verbal communication with patients, family and hospital
2017-18 (Fall 2017)	ECC: RTEC 106	Clinical Experience 1	SLO #1 IR Sizes	Students will identify various types and sizes of image receptors and detectors.
2017-18 (Fall 2017)	ECC: RTEC 111	Fundamentals Rad Tech I	SLO #2 Control of Scatter	Students will assess various methods to control scatter radiation.
2017-18 (Fall 2017)	ECC: RTEC 123	Radiographic Positioning 1A	SLO #3 Patient Communication	Students will demonstrate effective communication skills with patients, self and others.
2017-18 (Fall 2017)	ECC: RTEC 217	Clinical Experience 4	SLO #1 Low Exposure	Students will employ the lowest radiation exposure possible to produce quality diagnostic images.
2017-18 (Fall 2017)	ECC: RTEC 233	Radiographic Positioning 2	SLO #2 Radiographic Skull Image Evaluation	Students will analyze radiographic images of the skull, recognize and identify any errors and accurately correct for the positioning errors.
2017-18 (Fall 2017)	ECC: RTEC 244	Rad Physics, Equip/Safety	SLO #2 Patient Dose and Techniques	The student will calculate the radiation exposure levels to the patient for 3 types of imaging systems (film screen, DR and CR) and compare and contrast the relationship of the imaging systems to patient dose.
2017-18 (Fall 2017)	ECC: RTEC 328	Clinical Experience 7	SLO #2 Problem Solving for Image Critique	Students will evaluate radiographic images and make appropriate changes when necessary to produce quality diagnostic images.

Course SLO Assessment Cycle	Course ID	Course Name	Course SLO Title	Course SLO Statement
2017)				for radiographic examinations
2016-17 (Summer 2017)	ECC: RTEC 216	Clinical Education 2	SLO #1 Trauma and ER	Students will revise methods of performing a radiographic examination for trauma and emergency room patients.
2016-17 (Summer 2017)	ECC: RTEC 220	Clinical Experience 6	SLO #1 Effective Communication	Students will demonstrate effective communication in written, oral and non-verbal communication with patients, family and hospital
2017-18 (Fall 2017)	ECC: RTEC 106	Clinical Experience 1	SLO #1 IR Sizes	Students will identify various types and sizes of image receptors and detectors.
2017-18 (Fall 2017)	ECC: RTEC 111	Fundamentals Rad Tech I	SLO #2 Control of Scatter	Students will assess various methods to control scatter radiation.
2017-18 (Fall 2017)	ECC: RTEC 123	Radiographic Positioning 1A	SLO #3 Patient Communication	Students will demonstrate effective communication skills with patients, self and others.
2017-18 (Fall 2017)	ECC: RTEC 217	Clinical Experience 4	SLO #1 Low Exposure	Students will employ the lowest radiation exposure possible to produce quality diagnostic images.
2017-18 (Fall 2017)	ECC: RTEC 233	Radiographic Positioning 2	SLO #2 Radiographic Skull Image Evaluation	Students will analyze radiographic images of the skull, recognize and identify any errors and accurately correct for the positioning errors.
2017-18 (Fall 2017)	ECC: RTEC 244	Rad Physics, Equip/Safety	SLO #2 Patient Dose and Techniques	The student will calculate the radiation exposure levels to the patient for 3 types of imaging systems (film screen, DR and CR) and compare and contrast the relationship of the imaging systems to patient dose.
2017-18 (Fall 2017)	ECC: RTEC 328	Clinical Experience 7	SLO #2 Problem Solving for Image Critique	Students will evaluate radiographic images and make appropriate changes when necessary to produce quality diagnostic images.

Appendix C

6-YEAR CURRICULUM COURSE REVIEW TIMELINE

Division: HS&A **Program:** Radiologic Technology **Program Review Date:** 2018

Course #	FA/SU/SP	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2024
RTEC A	FA/SP		X SP			CTEA REVIEW			X SP				
RTEC 104	SU				X FALL	CTEA REVIEW					X FALL		
RTEC 106	FA					CTEA REVIEW	xSpring						
RTEC 107	SP					CTEA REVIEW	xSpring						
RTEC 109	SU				X FALL	CTEA REVIEW					X FALL		
RTEC 111	FA		X SP			CTEA REVIEW			X SP				
RTEC 123	FA				X FALL	CTEA REVIEW					X FALL		
RTEC 124	SP				X FALL	CTEA REVIEW					X FALL		
RTEC 216	SU				X FALL	CTEA REVIEW					X FALL		
RTEC 217	FA					CTEA REVIEW	xSpring						
RTEC 218	SP		X FALL			CTEA REVIEW			X FALL				
RTEC 220	SU				X FALL	CTEA REVIEW					X FALL		
RTEC 233	FA					CTEA REVIEW	xSpring						
RTEC 244	FA				X FALL	CTEA REVIEW					X FALL		
RTEC 255	SP		X SP			CTEA REVIEW			X SP				
RTEC 91	SP		X SP			CTEA REVIEW			X SP				
RTEC 93	SP					CTEA REVIEW	xSpring						
RTEC 328	Fall					CTEA REVIEW	X Spring						

APPENDIX D
CAREER AND TECHNICAL EDUCATION (CTE) SUPPLEMENTAL QUESTIONS

CTE programs must conduct a full program review every 4 years. The comprehensive program review includes responses to the CTE supplemental questions below. Every two years (once between full program reviews) these supplemental questions must be answered and submitted to Academic Affairs for posting on the College website.

Use labor market data, advisory committee input/feedback, and institutional and program-level data to respond to the following questions:

1. How strong is the occupational demand for the program?

The demand for the occupation continues to remain strong. Overall employment of Radiologic Technologists is projected to grow 13% from 2016 to 2026, faster than the average for all occupations. This prediction has increased from 9% since the last CTEA report in 2016. As the population grows older, there will be an increase in medical conditions that require imaging as a tool for making diagnoses and 25,200 new positions will need to be filled.
Bureau of Labor and Statistics: https://www.bls.gov/ooh/healthcare/radiologic-technologists.htm,
American Society of Radiologic Technologists: http://www.asrt.org

According to the BLS, California has one of the highest employment of Radiologic Technologist per state, and the average wage ranks among the highest in the country.

Radiologic Technologists rank #9 in Best Health Care Support Jobs.
Jobs are ranked according to their ability to offer an elusive mix of factors.

State	Employment	Employment per thousand jobs	Hourly mean wage	Annual mean wage
California	16,540	1.07	$36.57	$76,070

2. How does the program address needs that are not met by similar programs in the region?

El Camino's Radiologic Technology Program was the noted as the first community college in the country to offer Computed Radiography (CR) cassette based systems in their campus labs in 2001. In 2013, with bond funding and the move to the new MBA building, ECCs RT Program was again a leader in education by having the newest and best Wireless Digital (DR) Imaging Systems, along with CR and Film processing.
This enabled our students to become more familiar with what was now dominating the industry.
During the transition from film/screen to the Digital Imaging, many of our local area hospitals looked to us to assist with the education necessary beyond what the applications specialist could provide the staff at the clinical sites. We offered continuing education opportunities for our community Radiologic Technologist.
At this point in time, all film/screen curriculum has been removed from the ARRT content standards. All of the clinical sites removed film systems by 2010. Now that

the industry is shifting to primarily Digital units, and eliminating the CR (cassette based) systems, our clinical sites are also in the transition process.

3. What are the completion, success, and employment rates for students in the program?

The ECC RT program has maintained an excellent success rate of 100% for the student passing the ARRT national licensure exam for the past 18 years.
The benchmark for our completion rate is 75%.
The five year average is 113 started and 92 complete = 81.5% success.
The employment rates for the past 4 years has been 100% of those seeking employment have obtained employment. The results are included in the table below along with the benchmarks for each area. Additional results are published can be viewed on our program webpage.

Program Effectiveness Data:

Bench mark:			90%	90%		75%			75%		75%
YEAR Complete	ECC Grads	ARRT EXAM 1st Attempt Take/ Pass	Yearly % PASS RATE	ARRT EXAM 5 Yr Ave	% Pass 5 Year Ave	% Seeking & Found Employment Within 12 mo		Employ 5 yr ave	Jobs 5 year Ave %	Complete /Entering Program	Retent Rate %(PCR)
2013	18	18/18	100%	79/79	100%	14/15	93%	56/69	81%	18/24	75%
2014	20	20/20	100%	84/84	100%	20/20	100%	66/76	86.8%	20/24	83%
2015	17	17/17	100%	83/83	100%	14/14	100% 6m	69/74	93.%	17/23	74%
2016	19	19/19	100%	89/89	100%	19/19	100%	78/82	95.1%	19/22	86%
2017	18	18/18	100%	89/89	100%	17/17	100%	83/84	98.8%	18/22	80%
2018	19	19/19	100%	93/93	100%	N/A	N/A	N/A	N/A	19/22	86%

http://www.elcamino.edu/academics/healthsciences/radiologictech/RT%20Program%20Effectivness%2005%20to%202018.docx.pdf

This year the program received a special recognition by the California Community Colleges Chancellor's Office for our excellent results:

Special recognition of career education programs with outstanding workforce outcomes by the California Community Colleges Chancellor's Office:

The Radiologic Technology program was named as Strong Workforce GOLD Star because they have outstanding post-college outcomes in employment, earnings gains, and regional living wages, based on Strong Workforce Program LaunchBoard data.

GOLD STARS (attained threshold outcomes on all three metrics)

- Radiologic Technology: 192% increase in earnings, 73% of students attained the regional living wage and 100% of students are employed in a job similar to their field of study

4. List any licensure/certification exam(s) required for entry into the workforce in the field of study and report the most recent pass rate(s) among program graduates.

Graduates take the national American Registry of Radiologic Technology (ARRT) licensure exam.

As indicated in #3 above , the program has maintained 100% success for the student passing the ARRT national licensure exam on the first attempt for the past 18 years.
Upon comparison of ECC to the national average, there appears to be a slight decline in the national pass rate, while ECC has been able to maintain the 100%

This certifies the graduate as a licensed Radiologic Technologist R.T. (R) and allows them to work anywhere in the U.S. along with many foreign countries. It is considered the gold standard for licensure.
California also requires a separate state certification license. There is no longer an exam, as long
as the R.T. has proof of the ARRT licensure. An application is filed and the fee is paid, then the RT (R) receives a certificate as a Certified Radiologic Technologist in Radiography C.R.T. (R) from the California Dept. of Public Health, Radiologic Health Branch.(CDPH-RHB)

At this time, the CDPH-RHB also requires a separate certification to operate Fluoroscopy imaging equipment. This certification requires an additional application fee and passing a Fluoroscopy and Radiation Protection Exam. Once that is passed, the RT is issued a certificate from the CDPH-RHB as a C.R.T (R,F).

This chart show the ARRT results and comparison with the national results, along with the result for the Fluoroscopy exam for the CDPH-RHB.

ARRT NATIONAL RESULTS COMPARISON						RHB – STATE FLUORO	
YEAR Complete #		ECC Students % PASS RATE	ARRT National Average Pass Rate	ECC Students AVE SCORE	ARRT National Average Score	RHB Fluoro State Exam Pass Rate (1st Attempt)	Yearly FLUORO EXAM 1st Attempt # of Students Passed/ Tested (Jan-Dec) Can include 2 cohorts
2012	15	100%	93.0%	87.2%	85.3%	95.8%	24/23
2013	18	100%	89.6%	87.3%	84.1%	91.7%	11/12
2014	20	100%	~88.9%	89.5%	83.8%	100%	9/9
2015	17	100%	~88.4%	88.0%	83.4%	100%	11/11
2016	19	100%	87.2%	89.9	83.3%	83.3%	5/6
2017	18	100%	n/a	90.0	n/a	100%	19/19
2018	19	100%	n/a	89.8	n/a	n/a	N/A

This program has maintained a high success rate in passing of the fluoroscopy exam as well. The 100% average dipped in 2016, where 1/6 students did not pass the first time. That student waited 6 months after graduating to take the exam. The low number of student that year could be due to students waiting longer to take the exam, which then fell into the next year. This was the year that the curriculum was changed to eliminate the older equipment questions and incorporate more digital imaging equipment. Because the RHB keeps their statistic of result on an annual basis, and not by the graduation date, it is more difficult to analyze which cohort of students may have had the non- passing student on the first attempt.

5. Are the students satisfied with their preparation for employment? Are the employers in the field satisfied with the level of preparation of program graduates?

Yes – the program conducts annual student surveys. Over the past ten years 99% of the students have marked 4 – that they feel well prepared. The results have always met or exceeded the benchmark. The survey was changed in 2012 to add the satisfaction survey. The results show the benchmarks have been met with results showing slight increase since 2013.

This can be attributed to the use of the new digital imaging labs – the students felt well prepared to meet the needs of the current workforce using digital equipment.
(see Exhibit for sample of Student Exit Survey)

6. **Is the advisory committee satisfied with the level of preparation of program graduates? How has advisory committee input and feedback been used in the past two years to ensure employer needs are met by the program?**

Since many of our member of the Advisory Committee are employers of our local area hospitals, both the Employer surveys and Advisory Committee Surveys reflect the results of the graduates preparation for the workforce. The results somewhat mirror the student's evaluations. Since 2007, the program has met or exceed the benchmark. The results show a steady improvement in how the employers felt that the graduates were ready for employment. The marked increased in scores in 2013 can be attributed to, in part, the implementation of the new Digital Imaging system in the Radiography labs.

California Education Code 78016 requires that the review process for CTE programs includes the review and comments of a program's advisory committee.
Provide the following information:

a. Advisory committee membership list and credentials.
b. Meeting minutes or other documentation to demonstrate that the CTE program review process has met the above Education Code requirement.

Please see attached.

ADDITIONAL EXIBIHTS FOR PROGRAM REVIEW

1. SURVEYS
    a. STUDENT/GRADUATE SURVEY
    b. EMPLOYER SURVEY
    c. ADVISORY SURVEY

EL CAMINO COLLEGE
DIVISION OF HEALTH SCIENCES AND ATHLETICS
RADIOLOGIC TECHNOLOGY PROGRAM

PROGRAM EVALUATION - STUDENT EXIT SURVEY (2017)

21 students completed survey

- Congratulations to each of as you complete the program! We wish you the best of experiences as you begin your new career.
- To help us improve our program effectiveness, and to meet our programs goals and objectives, please take a few moments to complete the survey below (your last one- almost!)
- The information provided will assist program faculty in determining how well the program has met our goals. All information will be kept confidential.

Please place any additional comments you would like to add on the back of this paper.

Please rate with the following rating scale:
5= Excellent 4 = Very Good 3 = Good 2 = Fair 1 = Poor

A.-1 Has the program adequately prepared you with the skills, knowledge and abilities to perform as an entry-level radiographer? **(please rate)** **5 (21)** 4 3 2 1
Comments:

_____

A.-2 What is your overall satisfaction with the program's educational and clinical education in preparing you for the licensing exams and employment: **(please rate)** **5 (21)** 4 3 2 1
Comments:

_____

B) What specific Radiologic Technology course(s) do you think were most helpful in assisting you with your career goals:

_____

C) What specific Radiologic Technology course(s) do you think need to be changed?

_____

What changes would you suggest? _____

_____

D) Does the program make effective use of its facilities and equipment? Please explain:

_____

E) Are adequate facilities, equipment and supplies available for the program/student? 21__Yes __ No

Please explain: _____

F) Are the facilities and equipment adequately maintained? __21__ Yes ____ No

Please explain: _____

G) What was one of the most and least memorable experiences during the program:

_____

_____

EL CAMINO COLLEGE

16007 S. CRENSHAW BOULEVARD TORRANCE, CALIFORNIA 90506

RADIOLOGIC TECHNOLOGY PROGRAM

EMPLOYER SURVEY (2017)

Hospital:_____ Date:_____

Address: _____

City: _____ Zip:_____

Name of person completing this form _____

Total number of Radiologic Technologists employed? _____

How many El Camino College graduates do you employ? _____

How many Radiologic Technologists did you hire last year? _____

How many of these new hires were El Camino graduates? _____

Please rate the entry-level skills and knowledge your employees who are El Camino College Graduates: Please use a separate form for each graduate/employee.

5 = Excellent 4 = Very Good 3 = Good 2 = Fair 1 = Poor YEAR GRADUATED_____

Knowledge and skills:	**Circle one of the number**
1. Imaging equipment and processing	**5 4 3 2 1**
2. Patient care	**5 4 3 2 1**
3. Radiographic positioning	**5 4 3 2 1**
4. Radiographic exposure / technique	**5 4 3 2 1**
5. Knowledge of anatomy & physiology	**5 4 3 2 1**
6. Radiation protection	**5 4 3 2 1**
7. Medical ethics and professional ethics	**5 4 3 2 1**
8. Interaction with staff	**5 4 3 2 1**

Rev 2016

EL CAMINO COLLEGE
DIVISION OF HEALTH SCIENCES AND ATHLETICS

RADIOLOGIC TECHNOLOGY PROGRAM

PROGRAM ASSESSMENT

ADVISORY COMMITTEE – PROGRAM EVALUATION

Place an **X** in the appropriate box below and please provide comments

THE RADIOLOGIC TECHNOLOGY PROGRAM:

A **often**	**B** **periodically**	**C** **seldom**	Does the program share the statistical data relevant or program effectiveness?
			Comments:
A **1/yr ok**	**B** **2x/yr better**		On the recommendation of the Advisory, the Annual meetings were changed to Bi Annual – Which do you prefer? Please comment below on your selection
			Comments:
A **often**	**B** **periodically**	**C** **seldom**	Does the program regularly solicit feedback from students, faculty, radiologists, graduates, employers, and other communities of interest?
			Comments:
A **often**	**B** **periodically**	**C** **seldom**	Does the program analyze and use feedback from its communities of interest and outcomes data for continuous improvement of its policies, procedures, and educational offerings?
			Comments:
A **Very satisfied**	**B** **satisfied**	**C** **unsatisfied**	As an Advisory member, are you satisfied with the ongoing program assessment and evaluation process?
			Comments:

Please share your comments and/or recommendations

_____
_____
_____
_____
_____
_____

Use the back of page if needed.

Thank you! We value your input!

ALUMNI SURVEY RESULTS Year of Survey _____

TOTAL NUMBER OF SURVEYS : _____ TOTAL BY YEAR GRADUATED:

Total # distributed _____ Return Rate: _____\

Are currently employed as a radiographer?	YES NO
Are you currently employed? Full Time _ Part Time ___	Per Diem ___ On Call ___
Is your present job related to the knowledge and skills taught in the Radiologic Technology program?	YES NO

Survey Questions	**AGREE**	**DISAGREE**	**N/A**
1. The objectives and expectations of the program were made clear.			
2. The student handbook was useful in the understanding of program policies.			
3. As the courses progressed, topics reinforced one another.			
4. The textbooks complemented the program courses.			
5. Concepts presented in the classroom were appropriately reinforced in the skills lab			
6. Evaluation of student learning was fair and consistent.			
7. Teaching Methods: Lecture (Small group discussion, Video tapes, Computer, Films, Handouts, Guest lectures, Anatomical models, etc.) enhanced learning.			

Many of the essential skills and the information provided in the Radiologic Technology program are listed below. Please rate how well you obtained the following.**4 Very Good 3 = Good 2 = Fair 1 = Poor**

	4	**3**	**2**	**1**
A. Medical Ethics and Law				
B. Patient Care				
C. Radiographic Procedures				
D. Positioning Skills				
E. Film Critique				
F. Radiographic Pathology				
G. Radiation Physics				
H. Radiation Biology & Protection				
I. Principles of Radiographic Exposure				
J. Imaging Equipment & Processing				

EL CAMINO COLLEGE - RADIOLOGIC TECHNOLOGY PROGRAM

RTEC 124 – SPRING COURSE SURVEY Year:_____

In an ongoing effort to improve our courses, I would appreciate some feedback. Please answer the questions with **1 = least useful to you & 3 = most useful to you. No names please.**

How useful did you find this in helping you learn;

1 = not useful 2 = somewhat useful 3 = very useful N/A = not applicable

1. Using PowerPoint during lecture _____
2. Presentations/Materials available on the ETUDES _____
3. Course Text Book _____
4. Course Work Book _____
5. Having quizzes in addition to exams ____
6. Producing a radiographic images in lab _____
7. Image Critique/Review in class/lab _____
8. Image Review & Film Critique on Power Point ____
9. Preparing Series Notes for class/lab _____
11. Evolve – on line text_____
12. Using "Elsevier–Merrill's OnLine Modules _____
13. Open lab time with Lab Aides _____
14. Final Review of Exams _____

If you marked 1 on any of the above - do you have any suggestions for improvement? My suggestions are:

Was this information included in the course material? (Were the course objectives met) –
Place a check in the appropriate box for each objectives listed on your course syllabus

YES /NO	Course Objective
_____	• Successfully demonstrate through written evaluations and practical application, various positions each procedure discussed in class with a minimum grade of 73%.
_____	• Demonstrate the proper use of radiographic equipment and perform radiographic procedures using energized laboratory and phantoms.
_____	• Demonstrate acceptable safety precautions appropriate to each procedure.
_____	• Recognize and locate appropriate topographical landmarks (anatomy) related to routine procedu and positions.
_____	• Use and explain radiographic terminology applicable to the course.
_____	• Identify standard radiographic positions and anatomical structures on a radiographic image.
	• Demonstrate the use of accessories, protective devices, and technical competence to perform diagnos imaging procedures and meet acceptable patient care standards.
_____	• Evaluate, analyze and critique radiographic images.
_____	• Formulate special technical considerations and demonstrate positioning skills necessary wh performing radiographic procedures on an infant, elderly, or surgical patient.
_____	• Identify specific types of tubes, lines and catheters and describe the special problems faced performing procedures on the acutely ill patient with these devices in place.
_____	• Explain the types of immobilization devices and positioning considerations required for patients w fractures, wounds, head injuries and other types of trauma.
_____	• Demonstrate the proper use of fixed and mobile radiographic equipment.
_____	• Explain the appropriate radiation protection required when performing mobile and surgical radiograph
_____	• Describe the patient preparation for barium and iodinated contrast studies.
	• Characterize the nature, safe use, and hazards associated with use of contrast media in radiograp procedures.
_____	• Describe the contraindications, symptoms and medical interventions for a patient with a contrast me reaction.
_____	• Compare and contrast the benefits and risks of a fluoroscopy procedure.

RTEC 124 - SPRING COURSE SURVEY

The most helpful parts of the class is/are:

In regards to the **INSTRUCTOR – Mrs. Charman**

List items that are especially effective with regards to this instructor and/ or some suggestions for change that you feel would improve the effectiveness of this instructor:

In regards to the Lab **INSTRUCTOR – Ms Rosa Luna**

List items that are especially effective with regards to this instructor and/ or some suggestions for change that you feel would improve the effectiveness of this instructor:

I may have done better in the class if I had:

I feel that the Instructor pushed us: a) too hard b) not enough c) just right

Explain:

Thank you, have a great break!

EL CAMINO COLLEGE
DIVISION OF HEALTH SCIENCES AND ATHLETICS
RADIOLOGIC TECHNOLOGY PROGRAM

PROGRAM GRADUATE - EXIT SURVEY

EVALUATION OF STUDENT SERVICES @ El Camino College

In regards to the student services and your college experience provided to you

Please rate with the following rating scale:
4 = Very Good 3 = Good 2 = Fair 1 = Poor N/A for did not use
by making a circle around the appropriate response below:

1. Library & Resource Services:

Resource Material	4	3	2	1	N/A
Availability	4	3	2	1	N
Computer Access	4	3	2	1	N/A
Special Resource Center	4	3	2	1	N/A
Basic Skills Study Center	4	3	2	1	N/A
Library Orientation	4	3	2	1	N/A
Other _____	4	3	2	1	N/A

Comments:

---

2. Counseling Services

Advisement	4	3	2	1	N/A
Availability/Access	4	3	2	1	N/
Assessment/Testing Office	4	3	2	1	N/A
First Year Experience	4	3	2	1	N/A
EOP&S/Cal WORKS	4	3	2	1	N/A
Honors Transfer Program	4	3	2	1	N/A

Comments:

---

3. Tutoring & Lab Services

CAI Windows Lab	4	3	2	1	N/A
LRC Tutorial Program	4	3	2	1	N/A
SRC High Technology Center	4	3	2	1	N/A
Writing Lab	4	3	2	1	N/A
Writing Center	4	3	2	1	N/A
Math & Science Lab	4	3	2	1	N/A
Math Tutoring	4	3	2	1	N/A
LRC Tutorial Program	4	3	2	1	N/A
EOP&S Tutoring	4	3	2	1	N/A
Other _____	4	3	2	1	N/A

Comments:

PROGRAM GRADUATE - EXIT SURVEY
EVALUATION OF STUDENT SERVICES @ El Camino College Pg. 2

In regards to the student services and your college experience provided to you
Please rate with the following rating scale:
4 = Very Good 3 = Good 2 = Fair 1 = Poor N/A for did not use
by making a circle around the appropriate response below:

4. Cafeteria – Snack Bar 4 3 2 1 N/A
Availability Quality Price

Comments:
_____

5. Bookstore 4 3 2 1 N/A
Availability Quality Price

6. Admission & Records Office

Advisement	4	3	2	1	N/A
Availability/Access	4	3	2	1	N/A

Comments:
_____

7. Financial Aid Office

Advisement	4	3	2	1	N/
Availability/Access	4	3	2	1	N/A

Comments:
_____

8. Other Services Used (Please list & rate)

_____	4	3	2	1	N/A
_____	4	3	2	1	N/A
_____	4	3	2	1	N/A

EL CAMINO COLLEGE – RADIOLOGIC TECHNOLOGY
FACULTY ROSTER – Fall 2018

NAME	E-MAIL	DAY PHONE	CELL PHONE	ADDRESS
Dawn Charman, M.Ed, RT **Program Director**	dcharman@elcamino.edu RadTechDirector@elcamino.edu	310 660-3593 ext. 3247 909 466-6466 AL	Cell 909 851-7575 8926 Avalon, Alta Loma CA 91701	3325 W. 183 St Torrance, CA 90504
Colleen McFaul M.Ed, RT **RT Clinical Coordinator**	cmcfaul@elcamino.edu	wk 310 660-3593 ext.5901	cell 310 498-0804	457 28th Street Hermosa Beach, CA 90254
Eric Villa , B.S.R.T. **Full Time Faculty**	eviall@elcamino.edu	wk 310 660-3593 ext.3030	Cell310 427 4959	1044 W 227 St Torrance, CA 90503
Sivi Carson BS, RT Adjunct/ Clinical Educator	sivic15@yahoo.com		562-461-1215 cell 310 408-1605	4402 Hedda Lakewood, CA 90712
Naveed Hussain, RT Adjunct/ Clinical Educator	nsheikhusa@yahoo.com	wk 310 319-4000X 93001	310 897-9719	3624 Westwood Blvd #201 LA, CA 90034
Arshad Fazalbhoy, RT Adjunct/ Clinical Educator	afazalbhoy@hotmail.com	Cell 310 753-33244	310 518 2444	21240 Moneta Carson CA 90745
Tino Lopez, RT Adjunct/ Clinical Educator	tinolopez624@gmail.com	Cell: 310 951-9948	310 847-5586	1211 E. Carson St, #28Carson, CA 90745
Rosa Luna, RT Adjunct/Clinical Educator	mayeluna@aol.com	Cell: 323-387-1145	310-648-8098	522 Sierra Pl. #17 El Segundo, CA 90245
Alex Felix Adjunct/Clinical Educator	mexxvon@aol.com	Cell: 310-612-3280		12328 Braddock Los Angeles, CA 90230
Sofi Shrestha Adjunct/Clinical Educator	Sofi.tuladhar@gmail.com	Cell: 310-951-1489	310-844-7642	2595 Denali Ct. Hawthorne, CA 90250
Jeff Bradshaw Adjunct/Clinical Educator	jbradshaw@elcamino.edu		323 252 7254	
Michele Perez Adjunct/Clinical Educator	maperez@elcamino.edu		310 749 4443	
Rafael Torres Adjunct/Clinical Educator	Rtorres@elcamino.edu		562 507 9960	

EL CAMINO COLLEGE – RADIOLOGIC TECHNOLOGY
CLINICAL INSTRUCTORS ROSTER – Fall 2018

NAME	E-MAIL	DAY PHONE	CLINICAL AFFILIATE
Alex Sanabria RT, CRT	Alexandra.sanabria@ dignityhealth.org	(213) 742-5840	**CALIFORNIA HOSPITAL MEDICAL CENTER** 1401 S. Grand Ave. Los Angeles, California 90015
Tony Price, RT, CRT T	Tonypricesr@yahoo.com	(323) 294-7876	**CENTINELA HOSPITAL MEDICAL CENTER** 555 E. Hardy Street Inglewood, California 90307
Sandy Pham, RT CRT	Sandy.pham@kp.org	5627567413	**KAISER FOUNDATION HOSPITAL-SOUTH BAY** 25825 South Vermont Ave. Harbor City, California 90710
Sandra Pedersen, RT, CRT **Evelyn Mejia, RT CRT**	Sanpan63@att.net	(310) 514-5245	**PROVIDENCE LITTLE COMPANY OF MARY MEDICAL CENTER – SAN PEDRO** 1300 West Seventh Street San Pedro, California 90732
Laura Papdakis,BS, RT, CRT **Isabel Vasilescu, RT, CRT**	pappypgolky@aol.com isaxray17@aol.com	(310) 303-5702	**PROVIDENCE LITTLE COMPANY OF MARY MEDICAL CENTER – SAN PEDRO** 1300 West Seventh Street San Pedro, California 90732
Maaike Holman, RT CRT	ON HOLD since 2016		**MARINA DEL REY HOSPITAL** 4650 Lincoln Blvd. Marina Del Rey, California 90292
Steven Eklund BS, RT, CRT **Cythia Ahl,BS, RT CRT**	SEklulnd@mednet.ucla.edu CAHL@mednet@ucla.edu	(424) 259-8740 Workroom (424) 259-8738 Steve's line	**SANTA MONICA-UCLA MEDICAL CENTER AND ORTHOPAEDIC HOSPITAL** 1250 16TH Street Santa Monica, California 90404
Kathleen Lopez, RT, CRT **Lorena Reynosa RT, CRT**	kndunn78@att.net lorenluvsmaxyfer@gmail.com	(310) 561-2729 (310) 874-4408	**TORRANCE MEMORIAL MEDICAL CENTER** 3330 Lomita Blvd. Torrance, California 90505

Sample Advisory Meeting Minutes Here

El Camino College
Radiologic Technology Program

Advisory Committee Agenda: **Wednesday, April 30, 2016**

8:00 am in MBA 401

1. Call to Order

a. Welcome & Introductions
b. Changes to committee, faculty and hospital staffing
c. Certificates – reminders for renewals (Faculty & CI's) ARRT, CRT, etc.

2. Program Status & Results - Updates– Spring 2016

a. Current Classes (2016 & 2017) Grad Stats, Program Completion Rate PCR
b. Class of 2015; ARRT exam results, early employment update? Please see list

3 . Regulations, Accreditation and Program Benchmarks

a. JRCERT Accreditation

1. Site Visit Schedule April 11&12 - All CI, Faculty attend Mon Lunch on campus in MBA 401 (parking passes?)
2. Student learning outcomes (SLO) & Program Assessment/Effectiveness
   a. Publishing Results on RT Website / ETUDES
   b. Meeting Minutes, ECC Program Review
3. Review of JRCERT Standards and Site Prep
   a. Schedule Changes for Site visit (Class and Clinical)

4. **CDPH-RHB - RTCC meeting 4/13/16 – DC will attend**

1. 2ND yr student attendance – Will not attend this year

5. Program /School Changes & Updates

a. Fall 2016 Class Schedule changes (Academic and Clinical) & Winter Session (2017) (Rory Memo)
Hopefully 2nd years will have a Clinical Class in the Winter

6. Clinical Discussions & Feedback

a. New 1st year Observations hours ? & JRCERT Standard 1.3

b. FALL - Repeat Procedure – **ALL** student images must be approved by RT

c. Clinical Capacity Forms - Due to DC by end of October? Now APRIL 1!!!!

d. CLINICAL CAPACITY for new students – FALL 2016

e. Attendance CI CE Faculty at ACERT in FEB 2016

f. Student Failed Competencies – how to keep track & remediate

g. Mina's Discussions:

1. Grid use on extreminties?
2. Use of AEC by 1st students & 2nd students and Techniques

f. Closed Session –for any Confidential Student Issues- @ end of meeting

7. Class of 2016

a. A.S. degree graduation May 13, 2016 – Softball field

b. Completion Ceremony – Friday week 8 = Oct 21, 2016

8. Summer Discussions

a. Mina has requested Summer off – Colleen "acting" Clinical Coordinator

b. Dawn working & Part Time CE's Rosa (2) , Joel (2) and Naveed (1)

c. Image Critique Schedules for Summer - Week 4 @ ECC - D Charman

9. Other Items

a. Date for next Fall Advisory Meeting - 11/11/16 @ 12:00 noon MBA 401

b. Equipment Donations - Little Co. of Mary Portable Machine

c. Closed session for Student discussions

10. Adjournment - 11:20

ECC – Radiologic Technology Program
ADVISORY MEETING MINUTES
March 30, 2016
8:00 am– 11:00 am

Location: ECC Campus, MBA 401

Present:

El Camino College Full Time Faculty
Dawn Charman, Program Director
Mina Colunga , Clinical Coordinator
Colleen McFaul, Instructor and Clinical Educator

El Camino College Part-Time Faculty
Sivi Carson, Clinical Educator
Rosa Luna, Clinical Educator
Valentino Lopez, Clinical Educator
Arshad Fazalbhoy, Clinical Educator
Naveed Hussain, Clinical Educator
Joel Sanchez, Clinical Educator

Clinical Affiliates & Others:
Steven Eklund, Clinical Instructor Santa Monica Medical Center
Christine Marin, Clinical Instructor Torrance Memorial
Laura Papadakis & Isabel Vasilescu, Clinical Instructors Providence Little Company of Mary Torrance
Ricky Houston, Manager, Providence Little Company of Mary Torrance
Sandy Pederson & Evelyn Mejia- Clinical Instructor Providence Little Company of Mary San Pedro
Alexandra Ramirez, Clinical Instructor California Hospital Medical Center
Janet Verdugo, Manager- Centinela Hospital Medical Center

Student representatives:
Marissa Wilhelm Class of 2016 – 2nd year student representative
Marvin Duran, Class of 2017 -1st year student representative

R. Natividad, Dean of HS&A (partial attendance)

1. Call to Order/ Welcome	a. Welcome and Introductions Rosa Luna, Sandy Pham, Evelyn Mejia,: new faculty b. Changes to committee and faculty New manager (Jeff Wallace) at Marina, already met with CC and PD, opens up with possible rotation at Cedars for students Janet at Centinela is in new position, Maria Torres at San Pedro, John Barone at California Hospital , Rick at LCM-T

	c. Certificates-reminders for renewals DC asks that all staff have their updated certificates regarding,
Minutes Approval	Minutes of the last meeting were sent out for review. Dawn reminded everyone to read, review and approve the minutes.
2. Program Status and Results	a. **Current Classes** (2016 & 2017) Grad Stats, Program Completion Rate PCR: DC has limited report on student employment. DC asks for help with updating students that have been hired. ECC track up to 12 months after graduation. Completion Rate: one student failed out in the fall that put us at 74% completion rate. Which is below our benchmark. Committee discussed in the fall and suggested remediation for students. DC reports some improvement in success. MC shared her classes remediation. DC asks for input from committee. Discussion followed. Clinical members shared some strategies for remediating students in clinical setting. MC reminds all failed comps should be turned in in order to use as a remedial tool for students. MC also suggests using Etudes to communicate with other CE, CI's. DC suggests that tech do not turn comp back to student but give directly to CE. ECC staff wants to catch the problems earlier so students will have more success. b. **Class of 2015**; ARRT exam results, early employment update: ARRT: all passed, lowest was 84% and many scores in the high 90 percentiles. Fluoro results are very high. JS asked about the breakdown for passing categories. Employment rate: committee members are filling out a roster if they know of any working student grads.
3. Regulations, Accreditation and Program Benchmarks **Program Benchmarks & JRCERT Standards**	JRCERT Accreditation Site Visit: Monday, Tuesday April 11, 12 1. Site Visit Schedule: Luncheon scheduled for April 11, 11am - 12:30. MBA 401 All are required to attend. DC cautions about parking issues. 2. Student Learning Outcomes: DC reports the results of some of the SLO. DC directs staff to the Rad Tech Website. DC will post on Etudes so it would be easier for staff to access. DC post program effectiveness data on faculty web page. DC showed how to navigate the web site to find link to SLO and PLO's. Staff can also find Advisory Meeting Minutes. DC will post under RT 218. 3. Review of JRCERT standards and Site Prep: DC shared with committee the procedures for prepping for a site visit, similar to what was done for CDPH-RHB visit last Summer. Standard 1.3 was shared. DC shared philosophy about how we send students to clinical sites. Discussion followed regarding student

	placement. Clinical sites would like to have some input but understand that program staff will make the final decision. MC shares about a desirable list is different than inappropriate behavior. She requests that sites share disrespectful behavior, inadequate behavior. DC reports some of the practices of other sites that will charge for parking at some sites but other sites do not. Both students shared their experience regarding having input for their clinical assignment. Both students feel that students input is not needed. MC asks if students feel like the clinical site can make a judgement in the short time of visits. DC would like to discuss the standard by JRC. She is attending a Site Visitor update in May, and will ask about their interpretation of 1.3. MC reminds all present that information that should be very confidential. Regarding JRC visit: DC shared which clinical visits planned by JRC (Kaiser, LCM, LCSP, Centinela) for site visits but also reminded all sites to be available. JRC could change their site visit schedule. DC reminds all to have student handbook and all clinical staff knows where to find policies. LCM was very good about response during the State Inspection. DC reviewed policies for records, competencies, exams, and placement. DC reminds all to check student boards and check for the revision dates on student boards. DC shared the official MRI Safety policy that students are orientated during the first year. Faculty shared concerns about current issues faced: Lack of release time for Program Director and Clinical Coordinator – this was shared in the self-study: **Standard 2:** ***2.2*** *Provides an adequate number of faculty to meet all educational, program, administrative,and accreditation requirements.* ***2.4*** *Provides clerical support services, as needed, to meet all educational, program, and administrative requirements* Administratively we have equal paperwork and accreditation with the other HS programs, but the workload is 130% with no release. No clerical support. Mina has increased workload with no compensation change. Work load allows for 5 full time employees. Teachers doing 16 hours days and health is deteriorating. After accreditation visit need to meet with Dean. Faculty would like get back in a timely manner, and less mistakes then more faculty to give the PD & CC adequate release time - should be given. Just because paperwork shows exemplary doesn't mean that we aren't stretched thin. DC reviewed briefly site visitors' agenda.
4. CDPH-RHB, RTCC Spring Meetings	1. 2nd year student attendance Day after JRC visit. DC normally asks students to attend. However, students are concerned about getting comps done. DC has left attendance as optional to attend. DC will attend and send update. cardiovascular techs moving patients under floor will be debated, otherwise not a lot of "hot topics". Decided over 1 year ago to eliminate Fluoro test, but so far no movement in that direction.

5. Program/School Changes & Updates	a. Fall 2016 Class Schedule changes (Academic and Clinical) Follow up discussion from Fall meeting. DC passed out schedule for Fall. 1st years will be on campus on Monday. This will affect student clinical schedules in Fall. b. Winter Session (2017) (RN memo)- DC reports that Winter session will return in Winter 2017. 2nd students would normally be in Winter Session but RN noted that would be for only students Needing units to graduate. DC shared Academic Calendar with committee. DC will be attempting to get 2nd year students in clinic. So Spring will start later in February. Also spring will end June 9 instead of May.
6. Clinical Discussion & Feedback **7. Applications** **8. Conference** **9. Other Clinical Discussions**	a. New 1st year Observation Hours Discussion of 1st year student-Since students are not having any input, should we still have the students rotate between hospitals. Past practices had the 1st years rotate during week 3-10. If students do not rotate, then CI's would not be able to give any viable input. Committee votes to keep process the same. 5 hours rotating, increases when place at clinical site b. Fall -repeat procedure- progress is good c. Clinical Capacity Forms- due to DC by end of October? April 1 DC passed forms to confirm clinical capacity forms and asked to be turned in d. Clinical Capacity for new students Fall 2016- MC is requesting total students for each site. CA-2 2 new CE-3 2 new K-2 6 new LC-T-4 2 new LC-SP-1 2 new MDR-0 prob use as second year site SM-6 4-5 new TMH-2 2 new DC reported Applications Process dates for Spring 2017 will be early March. Moved up due to change in semester s Attendance CE, CI at ACERT Feb 2016- DC shared disappointed in attendance in ACERT, despite the grant money to cover the costs. DC would like input to discover reason for not attending. Staff reports coverage in clinical was an issue. Staff would also have to take personal time off. Some asked if staff can attend only one day instead of all three days.

	Closed Session for confidential student issues (Student Reps dismissed) 1. Student logs: DC would like to re-vamp the patient log forms because we have to shred those files. Clinical sites agree that they do not want their Patient ID numbers in regular trash. They request that we return patient logs to clinical sites and they will trash. Program will try to get funding for heavy duty document shredders to destroy student patient logs after graduation 2. TRACJECIS – Program seeking funding for a program that would track many of the students attendance, competencies, evaluations, patient logs all on line – eliminate the large amount of paper. 3. MC wants clarify the use of AEC. 1st year students should NOT be using AEC. MC shared some examples of several cases of over-exposure to patients from Image Critique classes. Discussion followed. There were pro and cons shared on both sides of AEC issue. MC would Like consensus for of AEC techniques. Sites request that MC send out information on Techniques for CI's pass out to staff techs. TMH requests some time to orient staff to not using AEC. 4. Extremities-removable grids from DR systems. There is no increase in technique used in the DR room. Grids not always removed. 5. Comp orders: SE has issues with order of the comps earned. Student need to get pelvis before the hip comp. To clarify, shoulder before trauma shoulder. Students need to have a CXR II before a port CXR. To clarify, students can get hip before pelvis. Patella standards remain the same. C-spine limited is a different comp, so it can be an extra comp but not the mandatory comps.
7. Class of 2016	a. A.S. degree graduation May 13, 2016 on softball field or at 4pm at Murdoch stadium if completed. b. Completion Ceremony, Friday week 8, October 21, 2016
8. Summer Discussions	a. MC requested Summer off- CM to act as Clinical Coordinator during that time b. DC working and part-timers CE's – RL, JS and NH. DC will also be in clinics to check radiation safety books are up to date. DC may start review classes with the 2nd years during the summer. There has been digital added to fluoro test. c. Image Critique schedules for summer - Week 4 @ ECC by D. Charman d. Student hours- can student do 10 hour shifts, Saturday shifts? MC reports it is based on hospital

	policy and tech coverage. Sites should make sure student has a viable learning experience. 2nd years will work 37 hours. MC requested suggested hours for hours.
9. Other Items	a. Date for next Fall Advisory Meeting- Suggestions for date on the next Advisory Meeting. DC shared calendar for Fall. It looks like Tuesday afternoon are the only times to meet. October 25? November 1st? Staff voted for November 1st Tuesday 12-4pm. b. PLCM-T is donating a portable which we thank very much. c. Closed session for Student discussions: Students were excused for the private session
10. Adjournment	Adjourned at 10:55 am

Julie Meredith

Location: ECC Campus, MBA 401

Present: **Absent:**

El Camino College Full Time Faculty

Dawn Charman, Program Director

Colleen McFaul, Instructor and Clinical Educator

El Camino College Part-Time Faculty

Sivi Carson, Clinical Educator	Arshad Fazalbhoy, Clinical Educator
Rosa Luna, Clinical Educator	~~Jenny Little, Clinical Educator~~
Valentino Lopez, Clinical Educator	Naveed Hussain, Clinical Educator
Alex Felix, Clinical Educator	Eric Villa, Clinical Educator
Sofi Shrestha, Clinical Educator	Kim Angulo, Clinical Educator

Clinical Affiliates & Others:

Janice Ishikawa - HSA, Counselor

Julie Meredith – HSA, Division Clerical

Student representatives:

1. Call to Order/ Welcome	a. Welcome and Introductions
Minutes Approval	Minutes of the Spring Advisory Meeting Minutes 05/03/2017 were passed out for review. They are also available on the website. Minutes Approved
2. Program Status and Results	Graduation Class of 2017 12 of the 18 have taken and passed the registry exam She got a hold of last 6. Last test is schedule on November 8th. Scores have been good. Majority have been 90% or above. Class of 2018 – still have 19 students We have accepted 23 students and going strong – ½ way through the semester
3. Regulations, Accreditation and Program Benchmarks	**JRCERT Accreditation** Doesn't have anything to report - We got our 8 year award **Program Review** Every three years we need to do Program Review one. It's due next fall.

Program Benchmarks & JRCERT Standards	We have done one and we just need to add to it. It is how we get what we get. **Student Learning Outcomes** Colleen discusses assessments. Discussion on student learning outcomes and updating some of them. RT 104 SLO#2 (1st year students) "Students will demonstrate the proper use of radiograph equipment in the clinical setting." The assessment tool we used was a form. We met our benchmark 3.6 out of 4 which is 90% RT 104 SLO #3 Students will demonstrate ethical behavior with patient, self and others. After tallying all the scores we scored a 94% so we met our benchmark. Same results as 2014. Discussion on writing a new SLO or raising the benchmark. RT 106 SLO#1 The following SLO is scheduled to be assessed this semester. Colleen doesn't think it's a very good SLO. "Students will identify various types and sizes of image receptors and detectors." Would love suggestions on a new SLO. Too late to change for this semester but would like one for the future. Discussion on transporting patients. Proper body mechanics for moving patients was discussed.
4. CDPH-RHB, RTCC Meetings	**CDPH-RHB** RTCC meeting was cancelled in the spring due to lack of agenda items. Meeting scheduled for tomorrow in Sacramento. Dawn has the agenda; AB 387 – (regarding paying students for clinical) tabled for now but will be back New Online Licensing application - Looks like you will be able to go online to renew your application X-rays operators permit Acceptable American registry documentation Revised affiliated clinical site inspection Dawn will be coming around to clinics to check on weekly floural

	maintenance and logs need to be kept up. Also checking for signage. Sent everyone Notice to Employ. They look the same but everyone needs to keep the most recent one posted. Dawn will check it on a regular basis.
5. Clinical Discussion & Input **Conference** **Applications** **6. Program/School changes & Updates**	**Clinical Discussions & Input** ACERT 1/31/201-2/2/2018 Dawn is requesting funding through Madden so that they can all attend and encourages everyone to attend. Thursday night Dawn will take everyone out to dinner. There are track for program directors and clinical educator track. They break into groups and talk about students and how to motivate them. Topics for Conference were discussed. We had a new system for getting our students into clinical placement for the fall. The students are there week 6 instead of week 10. They had a whole month jump ahead of all the other classes before them. This has created different problem areas. Instead of doing an orientation in two short weeks we had five weeks to do it. We had some trouble finding classrooms. Discussion on transporting training during orientation. They did train in transporting, blood born pathogen training and HIPPA training. Hopefully the students were much more useful to you when they got to clinical. Last time students were assigned to a clinical site. They did not have a choice. The clinical educators thought that it works better. They did not decide until week 4 because they wanted to get to know the students better to see who was going to fit better where. Discussions on competencies and timing. Should there be a first competency in the first semester? Because the first year students get a break in the winter, they forget what they learned. Decision to keep competencies the way they are. Form passed out for the clinical sites to fill out for student start times and end times. Used a new short-term pass/fail evaluation forms on the seniors. Feedback was the clinical educators thought it was great. Colleen asks them to email any other feedback on the form. There is a new list of competencies from the ARRT that are required. Please see the attached clinical competency tracking sheet to review what is currently required and new requirements.

7. Class of 2017	**Graduation Class of 2017** 12 of the 18 have taken and passed the registry exam She got a hold of last 6. Last test is schedule on November 8th. Scores have been good. Majority have been 90% or above. **Class of 2018** – still have 19 students We have accepted 23 students and going strong – ½ way through the semester -
8. Winter Discussions	
9. Other Items	a. Date for next Spring Advisory Meeting_____ Closed session needed for student discussions
10. Adjournment	Adjourned at