

APPENDIX D

CAREER AND TECHNICAL EDUCATION (CTE) SUPPLEMENTAL QUESTIONS

CTE programs must conduct a full program review every four 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 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 9% from 2018 to 2028, faster than the average for all occupations. This prediction has decreased from 13% since the last CTEA report in 2018. As the population grows older, there will be an increase in medical conditions that require imaging as a tool for making diagnoses and 19,000 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 #15 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	17,360	1.02	\$38.97	\$81,060

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

El Camino's Radiologic Technology Program was 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.

More recently, in 2019 one of the Clinical affiliates has donated a functional surgical table that allows our students to have more practice with C-arm fluoroscopy. Simulated surgical cases by El Camino Staff has provided students with the essential tools necessary for proper functionality of C-arm technology and maneuvers.

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 20 years.

The benchmark for our completion rate is 75%.

The five-year average is 112 started and 94 complete = 84% success.

The employment rates for the past 6 years have 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:

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 average	% Pass 5 Year Ave	% Seeking & Found Employment within 12 months		Empl oy 5 yr Ave	Jobs 5 year Ave %	Complete /entering the 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	86.80%	20/24	83%
2015	17	17/17	100%	83/83	100%	14/14	100%	69/74	93.00%	17/23	74%
2016	19	19/19	100%	89/89	100%	19/19	100%	78/82	95.10%	19/22	86%
2017	18	18/18	100%	89/89	100%	17/17	100%	83/84	98.80%	18/22	80%
2018	19	19/19	100%	93/93	100%	19/19	100%	90/90	100%	19/22	86%
2019	21	21/21	100%	94/94	100%	21/21	100%	90/90	100%	21/23	91.3%
2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

In 2018, the program received a special recognition by the California Community Colleges Chancellor's Office for our excellent results. The Radiologic Technology program was named as Strong Workforce GOLD Star because they have outstanding post-college outcomes in employment, earning 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 student 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 20 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 shows 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	# of students	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%	93.00%	87.20%	85.30%	95.80%	23/24
2013	18	100%	89.60%	87.30%	84.10%	91.70%	11/12
2014	20	100%	~88.9%	89.50%	83.80%	100%	9/9
2015	17	100%	~88.4%	88.00%	83.40%	100%	11/11
2016	19	100%	87.20%	89.9	83.30%	83.30%	5/6
2017	18	100%	89.30%	90	83.6	100%	19/19
2018	19	100%	89.40%	89.8	83.6	100%	13/13
2019	21	100%	89%	N/A	83.4	N/A	N/A
2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A
**ARRT extracted data - (Searched Exam Statistics for mean pass rate and scores)							
**CDPH-RHB extracted data - (https://www.cdph.ca.gov/Programs/CEH/DRSEM/CDPH%20Document%20Library/RHB/Schools/X-raySchoolPassRates.pdf)							

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 twelve 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 revised 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 attached Exhibit for sample of Student Exit Survey).

[Program student 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.

Advisory committee meetings are held twice a year which thoroughly discuss ways to improve student preparation. In 2019, an increase in the number of competencies required for graduation from 52 to 54 total competencies was implemented to further the preparation of our RT students. In addition, 1st year 1st semester students are to obtain 2 competencies as part of expediting progression and preparedness. Not only does this assist in student learning/enthusiasm but it aids in having a reliable workforce within the clinical affiliates.

7. California Education Code 78016 requires that the review process for CTE program 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.**

See attached

[Advisory meeting minutes 2019](#)