

College of Southern Idaho Radiologic Technology Program Outcome Assessment Plan for the Class of 2022

Mission: To prepare students to become graduates for entry-level employment as ARRT Registered Technologists in Radiography

Category I: Graduate Performance

Goal I: Program effectiveness will be measured on an ongoing basis

Outcome	Tool	Benchmark	Time Frame	Responsibility	Result
1. Enrolled students will complete the program.	CSI Institutional Research Graduation Report	≥ 80 % annual graduation rate.	Commencement (May)	Program Director	Yes 12/12 = 100%
<p>Action: Track data and compare trends.</p> <p>1. Completion rates for the program during the past 5 years is trending ≥ 90% as follows: 2022 = 100%, 2021 = 100%, 2020 = 91.6%, 2019 = 91.6%, 2018 = 100%.</p> <p>2. The program's 5 year average completion rate is 96.7% resulting in an attrition of 3.2%, which is very low. The Class of 2022's completion rate is significant since these graduates were trained during the stressful COVID pandemic where training was less than optimal because didactic education was provided synchronously on zoom beginning in the first didactic semester of training in the fall of 2020. All spring didactic courses were also offered through zoom.</p> <p>3. Data for the past 10 years was analyzed showing the completion rate for the years 2013 – 2022 has remained steady with 121 graduates out of 125 enrolled students for 96.8%.</p>					
2. Graduates will pass the ARRT exam in	A. Annual first-time pass rate.	A. ≥ 80 % Annual first time pass rate.	A. January 1 to December 31 for graduating class.	A. Program Director.	A. Yes 11/12 = 91.6%

radiography on the first attempt.					
<p>Action: Track and compare trends.</p> <ol style="list-style-type: none"> The Class of 2022's first-time credentialing examination pass rate of 91.6% is less than the program's 5-year first-time average annual pass rate of 94.8% (2022 = 91.6%, 2021 = 100%, 2020 = 90.9%, 2019 = 90.9%, 2018 = 100%,) dropping from 100% last year. The 91.6% first-time credentialing examination pass rate exceeded the program benchmark of $\geq 80\%$ annual first-time pass rate. The average annual first-time pass rate for Idaho was 88.4% for 2021 (latest data available from ARRT) The national average first-time pass rate is 83.8% (2021) 83.5 (2022) The student who failed the Registry on the first attempt had surgery a few days prior to taking the test but recovered and passed on the second attempt two weeks later. 					
	B. 5-year first time pass rate.	B. $\geq 80\%$ 5-year first time pass rate.	B. January 1 to December 31 for graduating class.	B. Program Director.	B. Yes 55/58 = 94.8%
<p>Action: Track and compare trends.</p> <ol style="list-style-type: none"> The program's 5-year (2022 – 2018) average first time credentialing pass rate is 94.8% (2022 = 11/12, 2021 = 12/12, 2020 = 10/11, 2019 = 10/11, 2018 = 12/12, = 55/58 = 94.8%). ARRT's Average Annual Report of Examinations pass rate for 2022 back to 2018 is 86.8% down from 87.9% in 2021 and 88.6% in 2020 (2022 = 83.5%, 2021 = 83.76%, 2020 = 88.2%, 2019 = 89%, 2018 = 89.4%), compared to CSI's 5-year pass rate of 94.8%. The reduction in the national average score is not surprising since training took place during the COVID pandemic. CSI's 5 year first time pass rate is 8 points above the national average, up from 6.9 points last year. The program has 3 first-time credentialing failures in the past five years. The student who failed in 2019 passed approximately one year later. The student who failed in 2020 has not passed the examination yet. The student who failed in 2022 passed within a couple of weeks. 					
	C. Annual program mean scaled score.	C. ≥ 80 Annual program mean scaled score.	C. January 1 to December 31 for graduating class.	C. Program Director.	C. Yes 11/12 passed 83% mean scaled score
<p>Action: Track and compare trends.</p> <ol style="list-style-type: none"> The annual program mean scaled score for 2022 is 83%, 8 points above the ARRT's minimum passing scaled score of 75 and 3 points above the program benchmark. Two students had a scaled score lower than the program likes to see students scoring (77% and 79%). Two students scored above 90% (91% and 92%). One student failed with a scaled score of 68%. The rest were in the 80's for a combined scaled score of 83%. The low scoring students had been advised they were at risk of a failure from substantiation of their scores on the mock examinations given in their 5th and final semester and extra instruction was offered to help increase their score. 					

<p>2. The Class of 2022's annual standard scaled score of 83 is .6 points above the 2022 national average of 82.4 as reported in ARRT's Annual Report of Examinations: Primary Eligibility Pathway 2022.</p> <p>3. 2022's annual scaled score of 83% was .8 points below the 2022 Idaho mean scale score of 83.8 as reported by ARRT. The state mean scaled score dropped from 85.8 (2020) to 84.4 (2021), 83.8 (2022) a drop of 2 points since the COVID pandemic began.</p> <p>4. The Class of 2022's, mean scaled score of 83% is .9 lower than 2021's mean scaled score (83.9) and 1.9 points lower than the Class of 2020's score (84.9). Mean scale score Class of 2019 (82.5), Class of 2018 (88.6), Class of 2017 (86.9). This drop in mean scaled score from last year may be due to the disruption in didactic and clinical education due to the pandemic.</p> <p>5. There were 16 fewer graduates who took the ARRT certification examination in Radiography in 2022 than 2021 but the average mean scaled score increased by .6 points. The percentage of Idaho students who passed the ARRT certification examination on the first attempt increased to 92.4% for 2022 graduates compared to 88.4 in 2021.</p> <p>6. With the severe shortage of R.T.s in the community, students have taken positions as student techs sooner in their training than in previous years. This has led to more burnout as students are trying to balance study, work, and family life.</p>					
	D. 5-year program mean scale score.	D. ≥ 80 % 5-year program mean scaled score.	D. January 1 to December 31 for graduating class.	D. Program Director.	D. Yes 84.9%
<p>Action: Track and compare trends.</p> <p>1. CSI Rad Tech Program's 5 year program mean scaled score of 84.9 (2022 83%, 2021 = 83.9%, 2020 = 84.9%, 2019 = 82.5%, 2018 = 88.6%, = $422.9 \div 5 = 84.9\%$) is 1.9 points higher than ARRT's 5 year national mean scale score of 83 (2022 = 82.4, 2021 = 82.3, 2020 = 83.3, 2019 = 83.4, 2018 = 83.6, = $415 \div 5 = 83.2$) as calculated from ARRT's Annual Report of Examinations (2022 – 2018).</p> <p>2. The five-year program mean scale score is .5 points lower than last year's five-year mean scale score of 85.4. The score has trended downward the past four years but still is above the ≥ 80% program benchmark.</p> <p>3. ARRT's 5 year national mean scale score has also trended down the past five years by 1.3 points.</p>					
3. Graduates will be employed within 6 months of graduation.	CSI RT Program Graduate Survey question # 4: students self-reporting job status.	≥ 80 % of those seeking employment of those surveys returned. (Excludes military and continuing education.)	Last day of class during the final spring semester of training. (Note: Students who are not employed as of last day of class are contacted within 6 months of graduation.)	Program Director	Yes 11/11 = 100%
<p>Action: Track and compare trends.</p> <p>1. The 5 year average annual job placement rate (2018 – 2022) for students reporting job status has been 100%. (2022 11/11 = 100%, 2021 12/12 = 100%, 2020 11/11 = 100%, 2019 10/10 = 100%, 2018 12/12 = 100%, $500\% \div 5 = 56/56 = 100\%$).</p> <p>2. 11 of the 12 students from the Class of 2022 had jobs at graduation. One student was pregnant and decided not to pursue a job until after the birth of her baby. She took a job at St. Luke's Breast Care Services in Boise in December 2022. This was beyond the 6 month timeframe so she was not included in the statistic.</p>					

4. Graduates will receive a quality education.	CSI RT Program Graduate Survey question # 1: Did the CSI Radiologic Technology Program adequately prepare you for entry level employment as an ARRT Registered Technologist in Radiography? (Note: Answers to this question are anonymous.)	≥ 80% students answer YES of those who returned surveys and answered the question.	Last day of class during final spring semester.	Program Director	No 42% = 5/12 replied Yes 25% = 3/12 were in between Yes and No 33% = 4/12 replied No
<p>Action: Track and compare trends.</p> <p>1. The Class of 2022 was trained during the COVID pandemic. They were selected through Zoom, all courses the first year of their training were delivered synchronously through Zoom, and clinical education patient interaction was limited in RADT 180 and RADT 181 because students were not allowed to work with COVID positive or COVID suspected patients. Their training was not optimal but program faculty worked hard to convert face-to-face courses to synchronous online courses so students' training could proceed. Recognition also needs to go to the clinical preceptors, staff technologists and clinical site management to provide a valuable clinical experience during a challenging period. All students graduated, all passed the Registry, and every student acquired a job as an R.T.(R).</p> <p>2. One student commented they felt CSI students are not as prepared as ISU students. The CSI Radiologic Technology Program is a need-to-know program. CSI has 48 RADT credits to train students compared to LCSC with 56 credits, NIC with 57 credits, BSU with 61 credits, and ISU with 63 credits. This calculates to 120 to 195+ additional hours of instruction at Idaho's other Radiologic Technology programs. CSI's instruction is condensed into less credits but still covers the ASRT Curriculum Guide requirements as evidenced by the high first-time ARRT certification examination pass rate.</p> <p>3. Over the previous five years, 58/58 graduates (100%) have answered YES to the question: Did the CSI Radiologic Technology Program adequately prepare you for entry level employment as an ARRT Registered Technologist in Radiography (2021 = 12/12 = 100%, 2020 = 11/11 = 100%, 2019 = 11/11 = 100%, 2018 = 12/12 = 100%, 2017 = 12/12 = 100%)</p> <p>4. Throughout the years, the overwhelming majority of CSI Rad Tech Program graduates indicate the CSI Rad Tech Program adequately prepared them for entry level employment as ARRT Registered Technologists in Radiography, which aligns with our program mission statement. The results for the Class of 2022 were an outlier. Students took jobs earlier in their training leading to more burnout due to significant commitments of time and energy. The challenges posed by training during a pandemic likely lead to the decreased satisfaction.</p>					
5. Employers will be satisfied with the (hard – technical) performance of graduates.	Employer Survey Question #1: Graduate employee(s) exhibit clinical competency commensurate of an	≥ 95 % Agree or Strongly Agree Combined satisfactory rating of those surveys returned.	Six months post - graduation.	Program Director	No 86% 12/14 4 respondents evaluating 12 students

	entry-level technologist.						Note: Some students work at multiple facilities and were evaluated twice.	
<p>Action: Track and compare trends.</p> <ol style="list-style-type: none"> 12 of 14 survey results were rated Agree or Strongly Agree (86%). Two responses were rated neutral. The two students who were rated as neutral were not as strong didactically as other students in the cohort. The composite score for the Class of 2022 is 4.7 compared to 4.72 for the Class of 2021. Surveys returned from the past six years show employers were satisfied with the technical skills of graduates they employed (2022 = 12/14 = 86%, 2021 11/11 = 100%, 2020 = no data, 2019 = 6/6 = 100%, 2018 = no data, 2017 = 2/2 = 100%, 2016 = 5/5 = 100%). The return on surveys has improved from previous years. We received feedback for all 12 graduates from the Class of 2022 vs. 11 graduates from the Class of 2021, and 6 graduates from the Class of 2020. We will continue to email the surveys directly to department managers as this method seemed to work better than using Survey Monkey. All respondents indicated they would hire CSI graduates again. Some comments from the surveys include, "At the end of the program the technologists can step into the workforce as competent technologists. Some may need some extra training within the OR environment or with procedures, but they are generally able to integrate quickly. They are coming to us with great attitudes and an eagerness to continue learning." "Covid restrictions likely hindered learning in all imaging education programs. Overall, this class having been through coursework during covid, is more resilient and adaptive." And, "I have been impressed that the students are taking a class in CT. That is something that is required at a lot of the hospitals in our rural area. I also think that the students are respectful and well prepared for coming to their clinical sites." "Interweave didactic and clinical time together. Having new students in clinicals, even one day a week the first two semesters, will be beneficial to reinforce learning and mitigate stress." Starting with the Class of 2023 the 2022 ARRT Didactic and Clinical Competency 10 patient care skills are being evaluated. These skills are initially learned in either the CNA or EMT course, reinforced during the Orientation to Radiologic Technology and procedures courses then comped at St. Luke's Magic Valley with the radiology nurses. 								
			5	4	3	2	1	
			Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
1.	Graduate employee(s) exhibit clinical competency commensurate of an entry-level technologist		12		2			66/14 = 4.7

Category II: Clinical Performance.

Goal II: Students will be clinically competent.

Outcome	Tool	Benchmark	Time Frame	Responsibility	Result
1. Students will demonstrate they have the clinical skills of a radiographer.	A. All competency exams. (Direct)	A. 95% of the total comps will be passed on the first attempt.	A. 3 rd , 4 th , and 5 th semesters.	A. Clinical Coordinator	A. Yes 622/631 = 98.6%
<p>Action: Track and compare trends.</p> <p>1. The Class of 2022 reported 9 unsatisfactory comps; 3 in the first CE semester, 3 in the second semester, and 3 in the final CE semester. Patient interaction was very limited during RADT 180 (summer 2021) due to COVID restrictions but students still were able to master their competencies on the first attempt even though they had limited practice in CE.</p> <p>2. The Class of 2021 reported 13 unsatisfactory comps.</p> <p>3. The Class of 2020 reported 6 Unsatisfactory Comps. The Class of 2019 reported 7 Unsatisfactory comps. Both numbers seem low. The chain of possession for unsatisfactory comps that is in place to report all unsatisfactory comps directly to the Clinical Coordinator within 24 hours of the unsatisfactory attempt seems to have eliminated unsatisfactory comps from being underreported.</p> <p>3. The Class of 2022 deserves commendation for their determination to complete clinical education successfully during uncharted hardships. Their tenacity proved that a strong will to succeed will overcome adversity.</p>					
	B. All venipuncture lab competency evaluations. (Direct)	B. 100% of students will pass their venipuncture lab competency evaluation.	B. 5 th semester	B. RADT 165 Instructor	B. Yes 12/12 = 100%
<p>Action: Track and compare trends.</p> <p>1. All students from the Class of 2022 passed their venipuncture lab competency evaluation with 100% accuracy. Both the Class of 2021 and 2020 also passed with 100% accuracy.</p> <p>2. The IV arms were refurbished in the summer of 2021. Unfortunately the supplies used to replace the veins were old and the tubing disintegrated over the next few months. This was not realized until the CT instructor went to use the IV arms. This limited the practice time for students but everyone met the competency requirement regardless. The PD was able to borrow IV arms from other programs to give our students the opportunity to pass their IV start competencies. New IV arms were purchased for use with the Class of 2023.</p> <p>Note: Students enter RADT 165 Fundamentals of Computed Tomography after taking an extensive online venipuncture course that meets California's strict venipuncture standards and that results in a certificate of completion. We retain copies of the certificates as verification that all students have completed this online course successfully prior to entering RADT 165.</p>					
	C. Trauma Case Study Part 2: #1 How well	C. 100 % of students will score ≥ 3 .	C. 5 th semester	C. Clinical Coordinator	C. Yes 12/12 ≥ 3

	you feel your clinical experience has prepared you for trauma radiography? (Indirect)				3.25
<p>Action: Track and compare trends.</p> <ol style="list-style-type: none"> 9 students reported a score of 3 (Prepared) on a scale of 1 Poorly prepared to 4 Highly prepared. 3 students reported a 4 for a composite score of 3.25. All students believe their expertise in trauma radiography would be enhanced with more trauma experience. A rural environment limits the number of exams available to students. Even with limited trauma experience the Class of 2022 showed more confidence than any other cohort previously did in their trauma presentation. Students are given the opportunity to do an evening CE rotation at their clinical site with clinical preceptor and clinical coordinator approval during high trauma probability periods (evenings) to enhance their trauma experience. Students complete Bontrager's Unit 15: Trauma, Mobile, and Surgical Radiography in RADT 162 during the 4th semester of training. During RADT 151 (1st Spring) and RADT 162 (2nd Fall) instructors reinforce basic trauma, mobile, and surgical positioning concepts while teaching routine entry level radiographic procedures. 					
2. Students will demonstrate they have the employability skills of a radiographer.	A. All Grade Determination Form B's composite score. (Direct)	A. 100 % of students will score ≥ 3 .	A. 3 rd and 5 th semesters.	A. Clinical Coordinator	A. Yes 12/12 = 100% 3.76
<p>Action: Track and compare trends.</p> <ol style="list-style-type: none"> The 3rd and 5th semester combined average scores on Form B were 3.68 in RADT 180 and 3.84 in RADT 182 with an average of 3.76. Significantly higher than the benchmark of ≥ 3. Most students showed growth over their clinical experience, but one student who was showing signs of a behavioral concerns in the 5th semester showed a significant drop. The average score of 3.76 was slightly higher than the Class of 2021's score of 3.72 and on par with the Class of 2020's average score of 3.76. With the critical shortage of RT's students are taking jobs much sooner and seem to be burning out because they are working too much while still trying to get through school. 					
	B. Anonymous Student Clinical Education Self-Assessment Survey. (Indirect)	B. 100 % of students will score ≥ 3 by the end of their 5 th semester.	B. 3 rd , 4 th , 5 th semesters.	B. Program Director	B. Yes 3 rd semester – no data 4 th semester 3.22 9/12 ≥ 3 5 th semester 3.55 12/12 ≥ 3
<p>Action: Track and compare trends.</p>					

1. Students in the 4th semester (2nd CE semester) scored an average of 3.2, in the 5th semester (3rd CE semester) they scored 3.5 for an overall average of 3.4.
2. No data is available for RADT 180. Outcomes were collected via a car drive by and some outcomes were not gathered.
3. The scores improved over the two CE semesters showing growth as students gained more experience and confidence.
4. Only three students scored less than 3 in RADT 181 and all scored ≥ 3 in RADT 182.
4. The Class of 2021 scored an average of 3.1, the Class of 2020 scored an average of 3.17. The Class of 2022's score of 3.4 is .3 points higher than the Class of 2021 but without the data from RADT 180 it may not be a true comparison.

Category III: Problem Solving and Critical Thinking

Goal III: Students will possess problem solving and critical thinking skills.

Outcome	Tool	Benchmark	Time Frame	Responsibility	Result
1. Students will demonstrate critical problem-solving skills performing a variety of challenging radiography procedures.	A. Grade Determination Form B # 3: The student thinks and acts creatively.	A. 100 % of students will score ≥ 3 .	A. 3 rd and 5 th semesters.	A. Clinical Coordinator	A. Yes 3 rd semester 3.33 5 th semester 3.58
<p>Action: Track and compare trends.</p> <ol style="list-style-type: none"> 1. 3rd and 5th semester combined average scores were 3.33 and 3.58 respectively suggesting critical problem solving skills grew during student's training. 2. Comparing the Class of 2022's combined average score of 3.33 and 3.58 is slightly higher than 2021's score of 3.2 and 3.5, while 2020's 3rd and 5th semester combined average scores of 3.86 and 3.71 is higher than the Class of 2022. 3. The lack of patient exams early in students' clinical education due to COVID decreased students' involvement in many exams limiting their experience to develop creativity. 					
	B. CSI RT Program Evaluation of Clinical Site # 1 (Gave student opportunities to participate in various radiographic procedures) and # 23 (An adequate number of procedures).	B-1. 100 % of students will score ≥ 3 . B-2. 100 % of students will score ≥ 3 .	B-1. 3 rd and 5 th semesters. B-2. 3 rd and 5 th semesters.	B-1. Clinical Coordinator B-2. Clinical Coordinator	B-1. Yes 4.6 B-2 Yes 4.5

		#1: Opportunities to Participate					#23: Adequate Number of Procedures						
Key	5 Very Strongly Agree	4 Strongly Agree	3 Agree	2 Disagree	1 Strongly Disagree		5 Very Strongly Agree	4 Strongly Agree	3 Agree	2 Disagree	1 Strongly Disagree		
CMC	3	1	1				3	1	1				
MMH	3						1	1	1				
NCMC	3						3						
SLMV	15	4					17	1	1				
IOC	19						19						
MP2	15						13	2					
SL Elmore			1						1				
SL Jerome	3						2	1					
SLWR	3						3						
Total	64	5	2				61	6	4				
	x 5	x 4	x 3	346/71	= 4.87		x 5	x 4	x 3	341/71	= 4.8		
	320	20	6				305	24	12				

Action: Track and compare trends.

1. The scores for the Class of 2022 (4.87 and 4.8) were higher than the Class of 2021 (4.6 and 4.5), Class of 2020 (4.8 and 4.68) and Class of 2019 (4.8 and 4.75).
2. Fitting students with N95 masks and giving them the ability to work with COVID patients increased students' participation in more exams.
3. All students agreed there were an adequate number of exams and availability of opportunities for students to participate in exams even with the limitations placed on students because of the pandemic in their first CE rotation.
4. Clinical education rotations have been altered slightly to incorporate the St. Luke's Jerome rotation into a St. Luke's Magic Valley rotation so all students have more access to fluoro (c-arm) exams. St. Luke's Jerome does not have fluoro or surgical exams. The change will allow students to spend a longer

<p>period of time in each of the rotations within the St. Luke's Magic Valley rotation increasing their confidence in the exams performed within the department or clinic.</p> <p>5. The St. Luke's Addison Clinic has been approved by the JRCERT as a clinical site providing one more facility for students to rotate through starting with the Class of 2023.</p> <p>6. Innovative Medical Imaging has requested to become a clinical site. They offer x-ray, fluoroscopy, CT, MRI, US, Mammography, and DEXA.</p>					
2. Students will demonstrate basic digital image analysis.	A. RADT 151 Radiographic Procedures Lab Assessment, #1-3 (Direct)	A. 100 % of students will score ≥ 3 .	A. 2 nd semester.	A. RADT 151 Instructor.	A. Not completed because the course was taught through online instruction due to COVID.
<p>Action: Track and compare trends.</p> <p>1. The Class of 2022 was not assessed through an oral lab assessment because of the COVID pandemic. The Class of 2021 was not evaluated through an oral assessment either. Students had been performing well in lab so it was determined the lab assessment could be suspended. The oral assessment was completed again for the Class of 2023.</p> <p>2. The Class of 2020 exceeded the benchmark of ≥ 3 with a score of 3.6, the Class of 2019 did not meet the benchmark with a score of 2.3.</p> <p>3. The RADT 153 Image Analysis course has been updated. Students now use the textbook Radiographic Image Analysis 5th ed. along with the associated workbook in the course for more instruction on evaluating their images.</p> <p>4. Trends will be compared again with the Class of 2023.</p>					
	B. Student Image Analysis Self-Assessment Survey, #1-5. (Indirect)	B. 100 % of students will score ≥ 3 by the 5 th semester of training	B. 3 rd and 5 th semester.	B. Clinical Coordinator	B. No 11 out of 12 students scored ≥ 3 with a composite score of 3.75 1 student scored themselves a 2.9 in RADT 182
<p>Action: Track and compare trends.</p> <p>1. The Class of 2022's score of 3.75 was higher than the Class of 2021's average score of 3.7, the Class of 2020's score of 3.2 and the Class of 2019's score of 3.6.</p> <p>2. The benchmark was not met because one student scored themselves at a 2.9, below the benchmark of ≥ 3.</p> <p>3. The student with a score of 2.9 scored themselves with a "2.5" on question #4 "How confident do you feel in in correcting exposure techniques based on the deviation index (DI)? The anonymous survey was given at the end of training in the 5th semester. The survey was also given at the end of RADT 181 to identify any deficiencies in students' ability to analyze their image quality. In the future it will be given at the end of RADT 180 to recognize image analysis weaknesses early so further teaching can be implemented.</p> <p>4. A new textbook, <i>Radiographic Image Analysis</i> was incorporated into the curriculum for the Class of 2024. The impact of the book will be understood with the Class of 2024.</p> <p>5. Overall students feel confident in their image analysis ability based on the data from the anonymous Image Analysis Self-Assessment Survey.</p>					

Category IV: Communication Skills
Goal IV: Students will communicate and interact effectively with patients and staff.

Outcomes	Tools	Benchmark	Time Frame	Responsibility	Result
1. Students will provide appropriate patient instructions that prevent repeats prior to making an x-ray exposure.	A. All Unsatisfactory Competency Evaluation Task # 14: Patient Instructions. (Direct)	A. ≥ 95% combined satisfactory rating.	A. 3 rd , 4 th and 5 th semesters.	A. Clinical Coordinator	A. Yes 9/9 = 100% 0 out of 9 total unsatisfactory comps were due to inadequate patient instructions.
<p>Action: Track and compare trends.</p> <ol style="list-style-type: none"> 1. There were no unsatisfactory comps due to inadequate patient instructions for the Class Of 2022. There was one unsatisfactory comp due to inadequate patient instructions which resulted in a failed comp but the lack of instructions did not cause motion on the images for the Class of 2021. 2. Both 2019 and 2020 met the benchmark at 100%. 3. Students from the Class of 2022 failed their comps due to clipping anatomy (2), failure to place marker on image (1), central ray placement (2), and positioning (4). 4. Students failing comps due to lack of appropriate patient instructions has only been documented once over the past 3 years so does not appear to be a problem. We will continue to track the outcome and take appropriate action if warranted. 					
	B. Anonymous Repeat Images Due to Inadequate Patient Education Questionnaire # 2: Number of repeated images in clinical education this semester due to patient education communication errors? (Indirect)	B. ≤ 7.5% of all repeated images due to communications errors.	B. 3 rd , 4 th , and 5 th semesters. No data for 3 rd semester - RADT 180	B. Clinical Coordinator	B. No 208 repeats due to miscommunication/2440 total repeats = 8.5%

Action: Track and compare trends.

1. The program has no data for RADT 180 Clinical Education 1 because students were fully remote and outcomes were collected through drive-by submission and the surveys were not completed.
2. The Class of 2022 did not meet the benchmark of $\leq 7.5\%$ of all repeated images due to communications errors. Their reported repeat rate from patient miscommunication of 8.5% is just slightly above the benchmark of $\leq 7.5\%$. The percent is lower than the Class of 2021's rate of 14.7%, the Class of 2020's rate (16.5%), and the Class of 2019 (10.8%).
3. The overall repeat rate for all three CE semesters for the Class of 2022 was 8% with 8.5% of the total repeats being from patient miscommunication. It would be interesting to know what the repeat rate due to patient miscommunication is for RTs to compare to students' repeat rate.
4. A new line was added to the Weekly Exam Log to track # Repeats, Total # Images, Repeat Rate, and Repeats due to communication starting with the Class of 2021. Students also record the reason for any repeat in the Notes column on the log. This has eliminated the inconsistencies in data collection and estimating data from earlier cohorts. The weekly exam log directions clearly state the directions for documenting repeat images. Students are made aware of the importance of tracking their repeats in the CE workshop held prior to the first CE semester (summer).
5. The reflections many students provided on the Anonymous Repeat Images Due to Patient Miscommunication Questionnaire showed they had learned from their mistakes to improve their communication with patients.
6. The outcome wording was changed to eliminate the word "estimated" since a reliable way to track repeats due to patient miscommunication is now in place and "patient miscommunication" was changed to patient education to make the tool more inclusive of all repeats due to communication.
7. A new outcome to analyze repeat images will be considered to help students identify their most commonly repeated exams and the reasons for the exam.

2. Students will be effective critical communicators in the clinical setting.

A. Clinical Preceptor Student Effective Communication Survey – of surveys returned. (Direct)

A. 100 % of students with a composite score ≥ 3 by the end of the 5th semester

A. 3rd and 5th semesters.

A. Clinical Coordinator

A. **Yes**
12/12 surveys returned for RADT 182 scored ≥ 3 in the 5th semester

Action: Track data and compare trends.

1. No data was collected for RADT 180 because students were completely remote and outcomes were collected through a drive-by to eliminate exposure during the COVID pandemic.
2. The Class of 2022's average score was 3.86 for RADT 181 and 182 indicating an improvement from the preceding three years. The Class of 2021's average score (3.63), the Class of 2020 (3.76) and the Class of 2019 (3.83). The Class of 2022's demonstrated improvement in perceived student communication by their clinical preceptors shows how impactful desire to achieve can be even under difficult conditions caused by the COVID pandemic.
3. Only one student received a score of < 3 during the 4th semester showing clinical preceptors "agreed" students were communicating well.
4. More emphasis was placed on communication during didactic instruction in RADT 102 Orientation to Radiologic Technology and in RADT 151 and RADT 161 the procedures courses to improve students' communication skills.
4. This year's return of surveys (23) was a good representation of all students' communication skills.

NOTE: Clinical Instructor was changed to Clinical Preceptor in the tool since the JRCERT now recognizes the Clinical Instructors as Clinical Preceptors.

	B. Anonymous Student Radiographer Effective Communication Survey. (Indirect)	B. 100 % of students will have a score ≥ 3 by the end of the 5 th semester.	B. 3 rd and 5 th semesters. No data for 3 rd semester	B. Clinical Coordinator	B. Yes 12/12 surveys returned for RADT 182 scored ≥ 3 in the 5 th semester
<p>Action: Track data and compare semesters and cohorts.</p> <ol style="list-style-type: none"> 1. No data was collected for RADT 180 because students were completely remote and outcomes were collected through a drive-by to eliminate exposure during the COVID pandemic. 2. The average score for the Class of 2022 in the 3rd semester was 3.8 and the 5th semester average score was 3.9 showing slight improvement in students' communication skills as training advanced. 3. Comparison of average scores from 2021 (3.75), 2020 (3.56), 2019 (3.67) demonstrates the Class of 2022 students (3.9) were confident in their communication skills. 4. Both Clinical Preceptors and students agreed the Class of 2022 had good communication skills. 5. The benchmark was changed to "100% of students will have a score of ≥ 3 by the end of the 5th semester." One survey returned in the 3rd semester scored < 3 but all of the surveys returned 5th semester scored ≥ 3 demonstrating growth throughout the program. 					
<h2>Category V: Professional Growth and Development</h2> <h3>Goal V: Students and graduates will behave ethically.</h3>					
Outcomes	Tools	Benchmark	Tim Frame	Responsibility	Result
1. Students will adhere to ethical standards of practice.	A. Grade Determination Form B-#5: Professional Ethical Conduct. (Direct)	A. 100 % of students will have a composite score ≥ 3 .	A. 3 rd and 5 th semesters.	A. Clinical Coordinator	A. Yes 12/12 students scored ≥ 3 for both semesters. 4 th semester = 3.83 5 th semester = 3.83 Composite = 3.83
<p>Action: Track data and compare semesters and cohorts.</p> <ol style="list-style-type: none"> 1. No data was collected for RADT 180 because students were completely remote and outcomes were collected through a drive-by to eliminate exposure during the COVID pandemic. Data was collected for RADT 181 in the 4th semester. 2. Clinical Preceptors scored 10 students in the 4th and 5th semesters with a "4 – Excellent" rating, and two with a "3 – Meets expectations". Two different students received the score of "3" in the 5th semester compared to the 4th semester showing two students actually went down in their score. The lower rating in the 5th semester for one student coincided with Clinical Preceptor reports of behavioral issues for that student in the clinical setting. The willingness of Clinical Preceptors to communicate with the program when a student is exhibiting behavioral issues helps to diffuse a situation that may jeopardize a student's training through student advising. 3. Comparison of the Class of 2022's 5th semester score (3.83) to the Class of 2021 (3.92), Class of 2020 (3.5) demonstrates a slight decrease over the past year. 					

<p>4. The composite scores for the 2022, 2021, 2020, and 2019 cohorts (3.83, 3.96, 3.74 and 3.95 respectively) greatly exceeded the benchmark of ≥ 3, indicating that RTs and CPs believe students from these cohorts adhered to ethical standards of practice.</p>					
	<p>B. Anonymous Student Radiographer Ethics Self-Assessment. (Indirect)</p>	<p>B. 100 % of students will have a score ≥ 3.</p>	<p>B. 3rd and 5th semesters.</p>	<p>B. Clinical Coordinator</p>	<p>B. Yes 23/23 surveys returned all scored ≥ 3. 4th semester = 3.94 5th semester = 3.96 Composite = 3.95</p>
<p>Action: Track data and compare semesters and cohorts.</p> <ol style="list-style-type: none"> No data was collected for RADT 180 because students were completely remote and outcomes were collected through a drive-by to eliminate exposure during the COVID pandemic. Data was collected for RADT 181 in the 4th semester. Comparison of the Class of 2022 4th and 5th semesters were almost identical (3.94 and 3.95 respectively) showing only slight growth over the training period. Question #5 on the survey, “Personally devote time to develop solutions to problems” was the question most often rated lower than any other question. Do students not want to get involved in department problems/solutions or do they lack confidence to propose solutions? All four cohorts (2022, 2021, 2020, 2019) evaluated under this outcome assessment plan with composite scores of (3.95, 3.75, 3.75, and 3.78 respectively) met the benchmark of ≥ 3, indicating that students from the cohorts believe they adhered to ethical standards of practice. Scores have remained stable far exceeding the benchmark. The benchmark was changed to “100% of students will have a score ≥ 3”. 					
<p>2. Employers will be satisfied with the overall personal skills (i.e., safety, flexibility, creativity, communication, professionalism) of graduates.</p>	<p>A. CSI Rad Tech Program Class of 2021 Employer Survey questions # 2 - 6: Please rate this person’s overall personal skills (i.e., communication, critical thinking, reliability, professionalism).</p>	<p>A. ≥ 90 % combined Strongly Agree (5) or Agree (4) rating of those surveys received.</p>	<p>A. 6+ months after May 2022 graduation.</p>	<p>A. Program Director</p>	<p>A. Yes Four surveys from seven facilities evaluating 12/12 graduates were returned. The combined rating was 4.6 324/70 = 4.6</p>
<p>Action: Track data and compare semesters and cohorts.</p> <ol style="list-style-type: none"> Employer surveys were emailed to department managers and St. Luke’s Student Services on March 3, 2023. All sites completed the survey. Four surveys from seven facilities evaluating 12 students were returned with a combined rating of 4.6. Note: Graduates working at St. Luke’s Magic Valley, St. Luke’s Wood River, St. Luke’s Jerome, and St. Luke’s Breast Care (Boise) were all evaluated together. All graduates were rated ≥ 4 on questions 2 - 6. 					

4. The Class of 2022's combined rating of 4.6 was down from 2021 (4.85). There was incomplete data from 2020 and 2019 to compare this year's cohort to effectively.
4. Students were rated lowest on communication skills and critical thinking. Written and verbal communication skills seem to be more of a challenge in students from recent years. Feedback from hiring managers included, "Communication skills among this generation of students has changed and I don't think it's an area where we can meet the students where they are at. Communication is always the key area that can be improved upon, specifically verbal/face to face communication. I fear that without a focus on this, students will not be comfortable advocating for the patient or themselves in real time. Our part in helping with this, is to make them feel safe when they are at our sites." And, "Continue to work on patient care skills and communication with patients..."
5. Employers continue to be overall satisfied with graduates of the CSI Radiologic Technology Program.
6. For the past two years the surveys have been emailed directly to department managers where graduates are employed and we have had much better return of the surveys. We will continue to track and compare future cohorts to current data.

		5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree	
2.	Graduate employee(s) demonstrate appropriate communication skills commensurate of an entry-level technologist	4	10				60/14 = 4.3
3.	Graduate employee(s) demonstrate appropriate medical ethics commensurate of an entry-level technologist	5	9				61/14 = 4.4
4.	Graduate employee(s) demonstrate critical thinking commensurate of an entry-level technologist	3	11				59/14 = 4.2
5.	Graduate employee(s) exhibit a high level of reliability and consistency	12	2				68/14 = 4.9
6.	Graduate employee(s) exhibit professionalism to include appearance, dependability, punctuality, and attendance	14					70/14 = 5

	B. Anonymous RT Radiographer Scope of Practice Survey. (Indirect)	B. 100 % of students who respond to the survey will score ≥ 3.	B. Last day of training.	B. Program Director	B. Yes 12/12 students rated themselves ≥ 3 on the survey. Composite = 3.9
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Action: Track and compare cohorts.

1. The anonymous 19 question survey was given to graduating students at the end of their training when most were already working as student RTs to increase participation. All graduating students returned the survey. The response rate has improved since collecting the survey at the end of training instead of trying to contact graduates after they leave the program. All students returned the survey from the Class of 2022 compared to only 2 surveys returned in 2019.

2. The Class of 2022 has the highest score (3.9), compared to 2021 (3.7), 2020 (3.63), 2019 (3.1)

3. The Class of 2022's composite score of 3.9 indicates students take their responsibility to maintain the ASRT Radiographer Scope of Practice Standards seriously.
4. The shortage of RTs in Idaho and across the nation has led to students accepting jobs earlier in their training.

Program Effectiveness Measures Category I: Graduate Performance

Program Completion Rates	Benchmark for 1.1.1 of $\geq 80\%$ annual graduation rate was met at 100% as 12 out of 12 students completed the program and graduated.
ARRT Pass Rates & Scaled Scores	All 4 benchmarks for 1.1.2 were met. Annual first time pass rate was $\geq 80\%$ at 91.6%. 5-year first time pass rate was $\geq 80\%$ at 94.8%. Annual program mean scaled score on the ARRT exam was $\geq 80\%$ at 83%. 5-year program mean scaled score on the ARRT exam was $\geq 80\%$ at 84.9%.
Employment Rates	Benchmark for 1.1.3 of $\geq 80\%$ of those seeking employment (excluding military and continuing education) was met at 100% with 11 out of 11 students obtaining employment within 6 months.
Graduate Satisfaction	Benchmark for 1.1.4 of $\geq 80\%$ of students receiving a quality education was not met with 5/12 = 42% answering Yes, 3/12 = 25% answering Yes and No, and 4/12 = 33% answering No.
Employer Satisfaction (of Graduate Technical Skills).	The benchmark for 1.1.5 $\geq 95\%$ combined Strongly Agree or Agree rating of those email surveys returned was not met with 4 respondents evaluating 7 facilities. 12/14 surveys = 86% rated the graduates at "5" Strongly Agree; 2/14 surveys = 14% rated the graduates at "3" neutral.
Amendments to Category I: Graduate Performance (Program Effectiveness)	None
Summary	6 benchmarks reflecting 5 outcomes that were measured for Category 1: Graduate Performance were met. Students are completing the program, graduating, passing the ARRT exam, gaining employment, receiving a quality education and satisfying employers with their technical competence.

Student Learning Outcomes (Categories II – V)

Category II: Clinical Performance	5 out of 5 benchmarks reflecting 2 outcomes for Category II: Clinical Performance were met. Students showed growth throughout their training.
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Amendments to Category II: Clinical Performance	None
Summary	5 out of 5 benchmarks reflecting 2 outcomes for Category II: Clinical Performance were met. Students are demonstrating that they have the clinical and employability skills of a radiographer.
Category III: Problem Solving and Critical Thinking	3 out of 5 benchmarks reflecting 2 outcomes for Category III: Problem Solving and Critical Thinking were met. 3.3.2.A. was not completed due to the course being administered synchronously online through zoom because of the COVID-19 pandemic but was included in the total benchmarks. 3.3.2B was not met with only 11 out of 12 students scoring ≥ 3 by the 5 th semester compared to the benchmark of 100% of students scoring ≥ 3 . The composite score was 3.75. The student who did not achieve the outcome scored 2.9. The composite score for the Class of 2022 was higher than the previous three years since the RADT 153 Image Analysis course was revised in 2020. More emphasize on: (1) the digital exposure variables and their effects on the latent image and digital image quality; (2) focused instruction on applying a practical basic image analysis strategy that insures diagnostic quality; and (3) practical image analysis experience using a variety of images, appears to have increased students' image analysis skills.
Amendments to Category III: Problem Solving and Critical Thinking	None
Summary	3 out of 5 benchmarks reflecting 2 outcomes for Category III: Problem Solving and Critical Thinking were met. Outcome 3.3.2.A has been completed again starting with the Class of 2023. Students are demonstrating critical problem-solving skills performing a variety of challenging radiography procedures. There is room for improvement in RADT 153 Image Analysis and steps to further revise RADT 153 Image Analysis have been implemented.
Category IV: Communication Skills	3 out of 4 benchmarks reflecting 2 outcomes for Category IV: Communication Skills were met. 4.4.1.B. did not meet the benchmark of $\leq 7.5\%$ repeats due to patient education communication errors. This year's rate of 8.5% showed progress over last year's repeat rate of 14.7%. Note: The CE weekly exam log was modified to include a line on each page to track repeat images due to communication errors. The total repeat rate for the Class of 2022 was 8% with only 8.5% of repeats due to communication errors, an improvement over the Class of 2021 with a total repeat rate of 14.7%.
Amendments to Category IV: Communication Skills	None
Summary	3 out of 4 benchmarks reflecting 2 outcomes for Category IV: Communication Skills were met. 4.4.1.B was not met but showed improvement over last year. Students are perceived as effective critical communicators in the clinical setting by their Clinical Preceptors
Category V: Professional Growth and Development	4 out of 4 benchmarks reflecting 2 outcomes for Category V: Professional Growth and Development were met.
Amendments to Category V: Professional Growth and Development	None

Summary	4 out of 4 benchmarks reflecting 2 outcomes for Category V: Professional Growth and Development were met. Students are adhering to ethical standards of practice. Employers are satisfied with graduates overall personal skills (i.e., safety, flexibility, creativity, communication, professionalism).
Assessment Plan Review	
Summary	21 out of 26 benchmarks (81%) reflecting 13 measured outcomes across 5 categories and 5 goals were met. Outcome 3.3.2.A. (RADT 151 Radiographic Procedures Lab Assessment) was included in the total number of benchmarks but not measured because it was not completed for the Class of 2022 due to the course being taught online during the COVID-19 pandemic.
Mission Statement	The program mission statement: The mission of the College of Southern Idaho’s Associate of Applied Science Radiologic Technology Program in Radiography is to prepare students to become graduates for entry level employment as ARRT Registered Technologists in Radiography will be reviewed at the April 2022 Program Advisory Meeting.
Goals	The program goals established to achieve the mission: (1) Measuring program effectiveness on an ongoing basis; (2) Producing clinically competent students; (3) Producing students with problem solving and critical thinking skills; (4) Producing students who can effectively communicate and interact with patients and staff; and (5) Producing students and graduates who behave ethically will be reviewed at the April 2022 Program Advisory Meeting.
Recommended changes to the assessment plan.	
Final Thoughts	