IDAHO STATE UNIVERSITY – Program Assessment Summary Report

Program: Radiographic Science
Contact Person: Christopher Wertz, Program Director
College: College of Health

PURPOSE OF THE RADIOGRAPHIC SCIENCE PROGRAM

The Radiographic Science Program is designed to develop the technical skills and knowledge necessary for the student to satisfactorily function in the role of a radiologic technologist. The program seeks to provide pertinent learning experiences which will enable the student to demonstrate competency in the technical aspect of the profession as well as the human relations aspect. The program further seeks to develop the students' interests in the professional societies as well as the possibilities for continuing education.

The Radiographic Science Program is eighteen months in duration after completing the necessary prerequisites. During this two-year period, the student will receive didactic experience at the University, combined with clinical experience at the affiliated hospitals and clinics. The student can earn a Bachelor of Science degree after satisfactorily completing the appropriate curriculum. Upon satisfactory completion of the radiographic science curriculum and prerequisites, the student is eligible to write the national registry examination for radiologic technologists sponsored by the American Registry of Radiologic Technologists (ARRT).

Bachelor of Science in Radiographic Science

The Bachelor of Science degree is a four-year curriculum. During the first two years the student takes general education, basic science, and business courses at the University. During the two professional years, the student studies and practices the clinical application of radiography at the University's energized laboratory and at affiliated hospitals. Upon completion of the program, the graduate is eligible to take the national examination for certification administered by the ARRT.

A variety of assessment methods are used to determine if the student is achieving the goals of the program. Some of these include: tests, laboratory exercises, projects, assignments, student demonstrations, image critiques, observation, and performance evaluations.

The Radiologic Technologist is one of many individuals who work together as a team to meet the needs of the medical community and society by providing patients with the best possible care. Because of the rapid growth of the medical field, there is an ever increasing need for radiologic technologists.

PROGRAM PHILOSOPHY

Idaho State University's Radiographic Science Program was developed with the philosophy that didactic education and clinical experience, which includes "hands on" should happen together for continuity during learning. Therefore, during the entire program the student learns in the laboratory

setting and applies those skills acquired in the clinical setting. This happens on a weekly basis. Furthermore, in the classroom students acquire the theoretical information necessary to perform as technologists. The next step involves laboratory experiences where the opportunity to apply technological skills is acquired by using phantoms and simulations. Students then progress and perfect their skills by working with technologists in a clinical environment. Additionally, several of the classes are taught by the Physics, Biology, and Healthcare Administration Faculties. This is atypical of most Radiographic Science programs and is a unique feature that sets the program apart from other programs. Our philosophy is students who learn from experts become experts. When graduation approaches students are ready to enter the profession confidently.

MISSION STATEMENT

The Mission of the Radiographic Science Program is to provide students with both the academic and technical foundations to competently and safely perform Radiologic procedures, to prepare qualified imaging technologists who will ethically respond to the needs of patients with technical competence and compassion, and to assume a vital professional role as a medical team member.

Vision

Prepare leaders in radiography for today and tomorrow by providing baccalaureate education.

Core Values

- Academics – promoting excellence in all academic endeavors.
- Knowledge – recognizing the significance of new knowledge in a profession that is predisposed to change while maintaining traditional values and emphasizing the needs of the patient.
- Dedication – to help meet the statewide and regional needs by providing access to quality education to prospective students.
- Community – to help meet the needs of the community in the health care setting by providing competent, qualified, technologists who are eligible upon graduation to sit for the national certification examination in radiography sponsored by the American Registry of Radiologic Technologists (ARRT).

PROGRAM GOALS/OUTCOMES

The Radiographic Science Program faculty promotes knowledge and discovery for all students in our program by committing to the following goals:

1. Students will use critical thinking and problem-solving skills**.**
2. Students/graduates will be clinically competent.
3. Students will be able to effectively communicate.
4. Students will demonstrate the importance of professional growth and development.

Outcomes Assessment Plan

Radiographic Science Program

The Radiographic Science Program at Idaho State University will provide a quality and diverse education that enables our graduates to become a valuable member of the health care team.

(The cycle of assessment for the plans below was August 2021 – July 2022)

Goal 1: Students will use critical thinking and problem-solving skills.					
Outcome	**Measurement Tool**	**Benchmark**	**Timeframe/Responsible Party**	**Results**	**Analysis/Action Plan**
1. Students will compare their research to the existing literature	RS 4460 group quantitative research poster rubric, "Conclusion" criterion	Average score ≥2.5 on a 3 point scale	4th semester Course instructor	n=21 2021=2.66	 **Action:**
2. Students will modify routine imaging parameters for trauma patients.	RS 3340 Lab Trauma Scenario assessment	Average score ≥4 on a 5 point Likert scale	1st semester	n=21 2016=4 2017=4.9* 2018=4.5 2019=4^ 2020=unavailable‡ 2021=4.67	*Note: In 2017 only 1 trauma scenario of a cross-table lateral hip was used based on available time in the lab curriculum. ^Note: In 2019 the measure was split so RS 3340 and RS 3341 each had their own measure. Previously the measure was combined results from RS 3340/3341 ‡Note: The instructor who taught this course in 2020 left the program and no longer had the data **Action**:
	RS 3341 Lab Trauma Scenario assessment	Average score ≥4 on a 5 point Likert scale	2nd semester	n=21 2019=unavailable* 2020=unavailable‡ 2021=4.57 (n=20)	In 2019, measure for RS 3341 was separated from RS 3340/3341 measure. *In Spring 2020 (2019 assessment year) COVID required online instruction. No trauma lab scenarios were used. ‡Note: The instructor who taught this course in 2020 left the program and no longer had the data **Action**:

Goal #2: Students/graduates will be clinically competent.					
Outcome	**Measurement Tool**	**Benchmark**	**Timeframe/Responsible Party**	**Results**	**Analysis/Action Plan**
1. Students will apply positioning skills.	RS 3340 Score on positioning criteria during lab test #5	Each position is worth 2 points. There are 4 projections per lab test. The average positioning score will be > 90%	1st Semester Course Instructor	n=21 2018=97.6% 2019=95.5% 2020=unavailable*‡ 2021= 95.6% (n=20)	*In 2020 the measurement tool was moved from Lab Test #3 to Lab Test #5 ‡Note: The instructor who taught this course in 2020 left the program and no longer had the data **Action:**
2. Students will demonstrate knowledge in radiation protection and ALARA.	RS 3390 Applied Radiography Competency criteria for "Radiation Safety"	100% of competencies will document radiation safety	2nd Semester Course Instructor	n=21 2021= 100% (n=20)	**Action:**
	Student quarterly dosimetry reports	No student will have >50 mrem exposure in any quarter (Q3,Q4,Q1,Q2)	End of each quarter Program Director	n=42 # of instances of dosimetry readings >50 mrem in a quarter 2017=2 (n=41) 2018=4 2019=7 (n=41) 2020=5* 2021=3‡ (n=40)	*In 2020 the benchmark was increased to 50 mrem, still half of ISU's acceptable limit and still 25 times less than the national limit. ‡Note: one student left her dosimeter in her checked luggage at the airport, greatly contributing to her dose record but not her actual exposure **Action:**

Goal 3: Students will be able to effectively communicate.					
Outcome	**Measurement Tool**	**Benchmark**	**Timeframe/Responsible Party**	**Results**	**Analysis/Action Plan**
1. Students will write clearly using AMA and ASRT style format.	RS 4450 quiz "ASRT Style Guide"	All students will receive a >90% at on the quiz	4th Semester Course Instructor	n=21 2016=96% 2017=98% (n=20) 2018=94% 2019=95% 2020=99% 2021=88.3%*	*In 2021 grading criteria for the quiz was changed to only allow 1 attempt or add a time limit to the quiz **Action:**
2. Students will demonstrate proper and effective communication with patients during an exam.	RS 3340 Lab final "patient intake" score	Average score >90%	1st semester Course instructor	n=21 2018=98.6% 2019=96.6% 2020=unavailable‡ 2021=95.3%	‡Note: The instructor who taught this course in 2020 left the program and no longer had the data **Action:**
	RS 4488 Final Clinical Evaluation Form, AIDET and Patient Care criterion	Average score ≥4 out of 5	3rd semester Clinical Coordinator	n=21 2021=4.81 (n=16)*	*One clinical site used an old evaluation form that did not have this criterion **Action:**

Goal #4: Students will demonstrate the importance of professional growth and development.					
Outcome	**Measurement Tool**	**Benchmark**	**Timeframe/Responsible Party**	**Results**	**Analysis/Action Plan**
1. Students will advance professionally by performing qualitative research.	RS 4430, Senior students will develop a poster presentation and submit the work to a professional society competition.	All students will receive a >80% at the completion of the poster and will place 1st, 2nd, or 3rd place at the ISRT conference.	5th Semester Faculty	n=21 2015=100% 2016=100% 2017=100% (n=20) 2018=100% 2019=100% (n=20) 2020=100%* 2021=100% (n=20)	*Note: in 2021 the ISRT Conference was virtual, so there was no student poster competition In 2021 ISU students placed 1st, 2nd, and 3rd at the ISRT conference **Action:**
2. Students will advance professionally by attending a state or national professional society conference.	Student attendance at the ISRT, ASRT, or ACERT conference	80% of students will attend at least 1 conference	Program Faculty and Staff	n=42 2021= 100%(n=40)	**Action:**
3. Students will demonstrate professional growth and development at clinicals	RS 4488 Final Clinical Evaluation	All students will achieve a score of ≥80% on the overall evaluation	Clinical Coordinator	n=21 2020=100% 2021=100%	**Action:**

Program Effectiveness Measures (1/1/2021-12/31/2021)					
Outcome	**Measurement Tool**	**Benchmark**	**Timeframe/Responsible Party**	**Results**	**Analysis/Action Plan**
1. Students will pass the national certification examination on the 1st attempt.	National Certification Exam 1st Time Pass Rates	100% each year	6 months post graduation (or upon completion by all) Program Director	2017: 100% (21/21) 2018: 100% (19/19)* 2019: 90% (19/21) 2020: 100% (19/19)* 2021: 76%r (16/21) 5 year average = 97%	The 2019, 2021, and 5 year benchmarks were not met. All students from the 2019 and 2021 cohorts eventually passed the ARRT registry. Program faculty reviewed the scores of those who did not pass on the 1st attempt to analyze for patterns or deficiency in program curriculum and teaching, but no patterns or commonalities were identified. *1 student who completed the program did not take the ARRT exam. Will continue to monitor
2a. Students who are actively seeking a job will be gainfully employed within 6 months post-graduation.	Graduate Survey Or "word of mouth" On line Alumni Survey	75% or higher yearly 75% 5 year average	post graduation survey Program Director/Clinical Coordinator	2017: 100% (21/21) 2018: 100% (20/20) 2019: 100% (21/21) 2020: 100% (21/21) 2021: 100% (21/21) 5 year average = 100%	Benchmark was met in 2019 and for the 5 year average.
2b. Job Placement Rate **1 year from graduation** for those actively seeking a job.	Graduate Survey or "word of mouth" On line Alumni Survey	75% of those actively seeking employment within 12 months of graduation	12 months post graduation Program Director/Clinical Coordinator	2017: 100% (21/21) 2018: 100% (18/18) 2019: 100% (21/21) 2020: 100% (21/21) 2021: 100% (21/21) 5 year average = 100%	Benchmark was met in 2019 and for the 5 year average.
3. Students will complete the program.	Graduation roster	100%	End of program Program Director	2017: 100% (21/21) 2018: 100% (20/20)* 2019: 100% (21/21) 2020: 100% (21/21) 2021: 100% (20/20)*	Benchmark for 2021 was met. *One student decided leave the program for nonacademic reasons
4. Graduates will be satisfied with their education by feeling prepared for their 1st job.	Graduate Exit Survey	≥ 4 (5 point scale)	Graduate Alumni Survey Program Director	n=21 2017: 4.43 2018: 4.54 (n=11) 2019: 4.95 2020: 4.54 (n=11)* 2021: 4.86	Benchmark met. An online survey was used for 2018, which may have decreased the response rate. Using a paper survey at the senior luncheon may increase the response rate *Online form was used due to COVID

5. Employers will be satisfied with the performance of newly hired technologists	Employer Survey	≥ 4.0 (5point scale)	12 months post graduation Program Director	2017: 4.7 (n=3) 2018: 4.5 (n=2) 2019: 5 (n=2) 2020: 5 (n=3) 2021: 4 (n=1)	Though the response is very limited, the benchmark was met. More emphasis and follow-up communication through direct contact and clinical preceptors will be used in the future. The program has been using an online survey, but it has not helped with the response rate. *Employers are continually reaching out to the RS program to solicit job opportunities, leading us to believe they are satisfied with the performance of our graduates
6. Faculty will review curriculum yearly.	Documentation in advisory committee meeting minutes or during JRCERT self study phase.	100% each year	Fall Semester Program Director	2017: yes 2018: yes 2019: no* 2020: yes 2021: yes	The faculty continue to review the curriculum yearly. *Due to the COVID-19 pandemic, there was no April 2020 Advisory Committee meeting, so the review was not documented.