

IDAHO STATE UNIVERSITY – Program Assessment Summary Report

Program: Radiographic Science

Contact Person: Christopher Wertz, Program Director

College: College of Health Professions

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.

Student Driven Effectiveness Assessment

The Radiographic Science Program and the Division of Health Sciences also administers a Student Driven Effectiveness Assessment each semester. This assessment is a method used to evaluate the program from the vantage point of our customer, the student. Continuous Quality Improvement guides program officials in looking for opportunities to improve in all aspects of the collegiate experience provided to our customer. The assessment includes a four question evaluation administered at the end of each semester. Students are asked to answer the following questions:

1. Has the Radiographic Science Program met your expectations?
2. Would you recommend the Radiographic Program to another student?
3. List the Top 3 Positive experiences this semester.
4. List 3 things that would enhance the experience in the Radiographic Science Program.

This assessment tool, which includes all student responses, an evaluation by faculty, an action plan, follow-up, and all survey results, can be reviewed on the department Web site. It is titled "Division of Health Sciences Student Driven Effectiveness Assessment Plan, and is located at the bottom of the page at the following hyperlink:

[Division of Health Sciences Student Driven Effectiveness Assessment](#)

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 2017 – July 2018)

| Goal 1: Students will use critical thinking and problem-solving skills. | | | | | |
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| Outcome | Measurement Tool | Benchmark | Timeframe/Responsible Party | Results | Analysis/Action Plan |
| 1. Students will select appropriate scholarly and peer-reviewed journal articles. | RS 4450 Annotated Bibliography rubric criteria "Article" | Average score >90% for the "article" criteria on both annotated bibliography assignments | 4 th semester Course instructor | n=21 2016=96% 2017=98% (n=20) | Benchmark was met. Students must select a peer-reviewed, scholarly journal article published within the last 3 years written on their chosen topic and must relate directly to medical imaging. This selection process requires critical thinking skills to apply the assignment criteria to an infinite number of article options. Action: 2 nd year of assessment. Will continue to monitor |
| 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 | 1 st and 2 nd semester | n=21 2016=4 2017=4.9 | Benchmark was met *Note: In 2017 only 1 trauma scenario of a cross-table lateral hip was used based on available time in the lab curriculum. During lab time students practiced trauma scenarios imaging our full body x-ray phantom on specific anatomies from each chapter. This group activity helps students collaborate and critically think to know how to perform in a trauma situation. Action: 2 nd year of assessment. Will continue to monitor |

| Goal #2: Students/graduates will be clinically competent. | | | | | |
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| Outcome | Measurement Tool | Benchmark | Timeframe/Responsible Party | Results | Analysis/Action Plan |
| 1. Students will apply positioning skills. | RS 3342 Clinical Competency Form (Sampling of four competencies per student) | Each exam is worth 25 points for a possible 100 point total. Average score of >80%. | 4 th Semester Clinical Coordinator | n=21 2013=98% 2014=97% 2015=96% 2016=96% 2017=98% (n=20) | Benchmark was met This is valuable to continue using because it is a random draw that evaluates the students positioning skills to verify competency. Action: 5 th year of assessment. May consider using new measure |
| 2. Students will have no greater than 2 simulations when applying to sit the ARRT exam. | Competency Spreadsheet | < 2 simulated exams | 5 th Semester Program Director/Clinical Coordinator | n=21 2012=0 2013=0 2014=0 2015=0 2016=0 2017=0 (n=20) | Benchmark was met The goal of the program is to graduate clinically competent technologists. Faculty feels that simulations are not comparable to real life situations. Action: 5 th year of assessment. May consider using a new SLO |
| 3. Students will demonstrate knowledge in radiation protection. | RS 3388 Radiation Protection-Comprehensive Final Exam Grades | Average score > 80%. | 2 nd Semester Course Instructor | n=21 2013=94% 2014=unavailable 2015=93% 2016=86% (n=20) 2017=84% | Benchmark was met. The RS 3388 course focuses on radiation practices and standards. The final exam for the course comprehensively assesses all the material covered throughout the semester. Action: With the unexpected decline in 2016 and 2017, will continue to monitor. |
| | Student quarterly dosimetry reports | No student will have >30 mrem exposure in any quarter | End of each quarter Program Director | n=42 2017=2 (n=41) | Benchmark was <u>not</u> met. Two students exceeded the goal. After discussion with the students it was discovered that 1 student was using the ISU dosimeter during clinical time and intern work time. The student was advised to obtain a second dosimeter from their employer to use when not on ISU time. The 2 nd student had accidentally left the dosimeter in a CT room after helping transport a patient. The dosimeter was exposed to scatter radiation from a number of CT exams. Action: 1 st year of assessment. Will continue to monitor |

| Goal 3: Students will be able to effectively communicate. | | | | | |
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| 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 >80% at on the quiz | 4th Semester Course Instructor | n=21 2016=96% 2017=98% (n=20) | Benchmark was met. The ASRT Style Guide quiz assesses students’ knowledge of specific English and formatting guidelines required by the ASRT for manuscript publication. Action: 2 nd year of assessment. Will continue to monitor |
| 2. Students will demonstrate proper and effective communication with patients during an exam. | RS 3340 Lab final communication score | Average score >90% | 1 st semester Course instructor | n=21 2016=99% 2017=97% | Benchmark was met. Students are evaluated on effective communication to their patient during lab assessments. They are required to perform AIDET (Acknowledge, Introduce, Duration, Explanation, and Thank you) and conduct a proper patient history prior to their mock exam. All students passed the final Lab exam demonstrating effective communication to patients. This evaluation tool helps improve students’ patient care skills in clinical. Action: 2 nd year of assessment. However, lab testing has changed slightly and a new, better measure for patient communication can be used in following years. |
| | RS 4488 Clinical Competency Form, Patient Management criteria | Average score >90% | 3 rd semester Clinical Coordinator | n=21 2017=100% (n=20) | Benchmark was met. Students are evaluated on effective communication (Patient Management criterion) to their patient during comps at clinicals. Action: 1 st year of assessment. Will continue to monitor. |

| Goal #4: Students will demonstrate the importance of professional growth and development. | | | | | |
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| Outcome | Measurement Tool | Benchmark | Timeframe/Responsible Party | Results | Analysis/Action Plan |
| 1. Students will advance professionally by performing qualitative research. | RS 4450, Senior students will write an 8-10 page literature review or case study and submit the work to a professional society competition. | All students will receive a >80% at the completion of the paper and an ISU student will place 1 st , 2 nd , or 3 rd place at the ACERT and/or ISRT conference. | 4 th Semester Faculty | n=21 2013=100% 2014=100% 2015=95% 2016=95% 2017=95% (n=20) | Benchmark was met. ACERT = 3 rd place in the investigational category ISRT = 1 st , 2 nd , and 3 rd place in the investigational category This indicator gives students a sense of accomplishment. Generally some students complain at the beginning of the semester, but upon completion of the exercise most generally agree that the experience was highly beneficial. Success this year at the ACERT conference is validation for faculty of quality and feedback from students provides a sense of accomplishment by knowing that they can succeed professionally and add to the knowledge base of the profession. This outcome is important as the degree awarded at ISU is a B.S. degree in Radiographic Science. This tool will be used repeatedly. A goal of the program is to instill in students the importance of contributing knowledge at the collegiate level that will instill desires to publish professionally in the Journal Radiologic Technology in the future. Action: Will continue to monitor |
| | 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 1 st , 2 nd , or 3 rd place at the ISRT conference. | 5 th Semester Faculty | n=21 2015=100% 2016=100% 2017=100% (n=20) | Benchmark was met. ISRT = 1 st , 2 nd , and 3 rd in the informative category *Note: students also competed at the ACERT competition for the first time and earned 3 rd place with an investigational poster. The investigational posters were also displayed at Research Day at ISU Same evaluation as the previous measure. Action: Will continue to monitor |

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| 2. Students will advance professionally by joining state and national professional societies. | ASRT membership | All students will join the ASRT | Program Director | n=42 2016=100% 2017=100% (n=41) | Benchmark was met. ASRT membership helps students stay connected to the national profession outside clinical and didactic settings. Engagement in the profession will lead to future development for both the professional and for the profession Action: 2 nd year of assessment. Will continue to monitor |
| | ISRT membership | All students will join the ISRT | Clinical Coordinator | n=42 2016=100% 2017=100% (n=41) | Benchmark was met. ISRT membership helps students be engaged with the issues and topics of the local profession. Membership as students will lead to increased activity in the state society as working professionals who will advocate for patients and the profession in Idaho Action: 2 nd year of assessment. Will continue to monitor |

| Program Effectiveness Measures (1/1/2017-12/31/2017) | | | | | |
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| Outcome | Measurement Tool | Benchmark | Timeframe/Responsible Party | Results | Analysis/Action Plan |
| 1. Students will pass the national certification examination on the 1 st attempt. | National Certification Exam 1 st Time Pass Rates | 100% each year | 6 months post graduation (or upon completion by all) Program Director | 2013: 100% (18/18) 2014: 94.7% (16/17) 2015: 100% (18/18) 2016: 80% (16/20) 2017: 100% (21/21) 5 year average = 95% | Both 2017 and 5 year benchmark were not met. All passed the ARRT registry by the 2 nd attempt. Program faculty reviewed the scores of those who did not pass on the 1 st attempt to analyze for patterns or deficiency in program curriculum and teaching, but no patterns or commonalities were identified. 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 | 2013: 94.6% (17/18) 2014: 100% (17/17) 2015: 100% (18/18) 2016: 100% (20/20) 2017: 100% (21/21) 5 year average = 99% | Benchmark was met in 2017 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 | 2012: 89% (16/18) 2013: 100% (17/17) 2014: 100% (17/17) 2015: 100% (18/18) 2016: 100% (20/20) 5 year average = 98% | Benchmark was met in 2016 and for the 5 year average. |
| 3. Students will complete the program. | Graduation roster | 100% | End of program Program Director | 2013: 94% (17/18) 2014: 94% (17/18) 2015: 100% (18/18) 2016: 100% (20/20) 2017: 100% (21/21) | Benchmark for was met. All students completed the program in 2017. |
| 4. Graduates will be satisfied with their education by feeling prepared for their 1 st job. | Graduate Alumni Survey | ≥ 4 (5 point scale) | Alumni Survey Program Director | n=21 2016: 4.75 (n=20) 2017: 4.43 | Benchmark was met |
| 5. Employers will be satisfied with the performance of newly hired technologists | Employer Survey | ≥ 4.0 (5point scale) | 12 months post graduation Program Director | 2015: 4.3 (n=3) 2016: 4.3 (n=3) 2017: 4.7 (n=3) | Benchmark met. More emphasis and follow-up communication will be used in the future. The program is also looking into giving respondents the opportunity to complete surveys online, which will hopefully increase the response rate |
| 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 | 2016: yes 2017: yes | The faculty will continue to review the curriculum yearly as documented in the Advisory Committee meeting minutes (April 2018). |