

IDAHO STATE UNIVERSITY – Program Assessment Summary Report

Program: Radiographic Science

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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 or an Associate of Applied 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. The graduate is eligible to take the national examination for certification administered by the ARRT.

Associate of Applied Science in Radiographic Science

The Associate of Applied Science degree is awarded to students in the Baccalaureate program who have not completed all of the curriculum requirements for the pre-professional years of the program. This allows the student to take the ARRT exam if the student has not completed the entire pre-professional curriculum, but has completed the entire professional curriculum. By awarding the AAS degree the student can then become certified, begin work as a radiographer, and complete the missing pre-professional courses. Upon completion of those courses the student can then apply for the baccalaureate degree. For this reason, 98% of radiographic science students at ISU graduate with a Bachelor of Science in Radiographic Science degree.

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 that students that 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 2013 – July 2014)

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 write clearly and accurately in a variety of contexts while checking, editing, and revising their written work for correct information, appropriate emphasis, form, style and grammar.	Annotated bibliography assignments in RS4450, AMA style of writing	All students will receive a >90% at the completion of the 4 th assignment	5th Semester Faculty	n=17 2013: Average 92%	Benchmark met, students improved as the assignment progressed and seemed to incorporate the suggestions made by the faculty in the subsequent papers. Faculty grades paper on accuracy, grammar, content, flow, and following assignment precisely. Action: This tool will be used again as the scores at the beginning of the semester improve during the writing experience and provide feedback via mistakes for the research assignment that follows.
2-Students will demonstrate the ability to utilize appropriate technology to acquire, organize, analyze, and communicate information in written form.	Library Instruction Test offered by Ruiling Guo	All students will receive a \geq 90% on the exam	5th Semester Faculty	n=17 2013: Scores Pretest =66% Posttest=91%	Benchmark was met 2013: Ruiling administered a pre test and a post test prior to measure the learning and to get an idea if students were benefiting from the exercise. The pretest scores averaged 66% and the post test scores averaged 91%. There is statistically significant difference between before and after library workshop (p<.001). Action: The benchmark was met, but will continue to monitor in 2014. The program faculty will continue to utilize and investigate writing a paper in the Journal about the importance of library instruction improving literary skills.

3-Students will be able to adjust changes, situations, patient condition, and/or deviations from the norm.	Clinical Final Evaluation Form in RS 3390 and RS 4490	Students will receive a rating \geq 4 on a Likert scale 1-5 Q6 Was able to adjust to changes, situations, patient condition, and/or deviations from the norm.	2 nd and 5 th Semester Faculty	n=35 2013= 4.7	Benchmark was met These necessary critical thinking skills as evaluated by the <i>clinical instructors</i> are beneficial to the program as it provides documentation on how students are performing clinically. Action: will be continued to be used as this tool is an integral indicator of student performance in a clinical setting,
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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 3342 Clinical Competency Form (Random 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=17 2013=98%	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: Will continue using.
2. Student will select appropriate technical factors	RS 3330 Radiographic Exposure Class -Final exam grades	Average score of >80%.	1 st Semester Course Instructor	n=18 2013=98%	Benchmark was met. Action:
3. 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=17 2013=0	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: Will continue to monitor.
4. Students will demonstrate knowledge in radiation protection.	RS 3388 Radiation Protection- Comprehensive Final Exam Grades	Average score > 80%.	2 nd Semester Course Instructor	n=17 2014=94%	Benchmark was met Action: will continue to use this tool

	Every year students will complete annual radiation training through the technical safety office.	All students will score 100%	1 st and 4 th Semester Clinical Coordinator	n=35 2013=100%	Benchmark was met This tool is a mandatory requirement for all radiographic science students by the radiation safety committee. Radiation protection is a practice that is becoming more and more an issue with the consumer. It is a vitally important measurement tool. Action: continue to use this tool
	RS 3342	Average score of >80% in the competency check off for these labs	4th Semester Course Instructor	n=18 2013=89%	Benchmark was met This tool has value as the scores in a lab setting are lower than the scores in the clinical setting, which is an indicator that the learning process improves outcomes when shifting to the clinical environment. Action: The program will use the same measurement tool for the next evaluation period.
	Clinical Final Evaluation Form	Students will receive a rating \geq 4 on a Likert scale 1-5 Q 9 Was mindful of patient protection and used proper collimation and shielding.	1 st and 4 th Semester Clinical Coordinator	n=35 2013=5	Benchmark was met This evaluation tool is evaluated by clinical instructors and more accurately reflects how the students are performing in the clinical environment. This is an important indicator of good radiation protection. Action: Will continue to use.

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 and accurately in a variety of contexts while checking, editing, and revising their written work for correct information, appropriate emphasis, form, style and grammar.	10-12 page research paper in RS 4450	All students will receive a >80% at the completion	4th Semester Course Instructor	n=17 2013>90%	Benchmark met Students' writing skills vary from class to class. The ability to write well is an expectation in this program. Action: Will continue to monitor. Student papers are published on the department website at http://www.isu.edu/radsci/student_research14.shtml/
2.Students will communicate clearly to the CI's by completing an inventory analysis of contrast media used in the clinical environment.	RS 3342 Lab Worksheet	>80% on the clinical site contrast media inventory assignment for Imaging of the lower GI.	4th Semester Clinical Coordinator	n=17 2013= 98.5%	Benchmark met This tool correlates with the written communication skills, but shifts the emphasis to oral communication with a student and a mid-level manager, in this case the clinical instructor. Action: Will continue to monitor

Goal #4: Students will demonstrate the importance of professional growth and development.					
Outcome	Measurement Tool	Benchmark	Timeframe/Responsible Party	Results	Analysis/Action Plan
Students will determine the importance of professional development 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.	4th Semester Faculty	n=17 2013= 100%	Benchmark met 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 state society meeting met the benchmark set by the program. Action: This tool will be used repeatedly. The 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.
	Final Clinical Evaluation form.	Students will receive ≥ 4 on questions 1, 2, and 3. Q1 Actively participated in the examination room assigned to. Q2 Used time effectively. Q3 Completed assigned tasks.	2nd Semester Faculty	n=17 2014=94%	Benchmark met Students were evaluated on how they perform in a clinical environment. Action: Continue to monitor

Program Effectiveness Measures					
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	2010: 94.7% 2011: 94.7% 2012: 100% 2013: 100% 2014: 94.7% *4 5 year Avg 97%	<p>Benchmark not met: See advisory committee meeting minutes dated October 2014.</p> <p>2014: One student failed on the first attempt. The student retook the exam approximately 4 weeks later and passed.</p> <p>Action: Faculty felt perhaps not enough study was performed by the student; also the student did not request additional time from the ARRT for test anxiety.</p> <p>Course evaluations of the Registry Review class were reviewed for the spring of 2014 by the faculty. On a likert scale of 1-5 with 1 being “strongly agree” and 5 being “strongly disagree”, the vast majority rated this class as a 1 for all 16 questions asked. Some comments from students include that the class was a very good prep for the registry.</p> <p>Faculty will stress with students the importance of studying . Students will be made aware that testing accommodations may be requested when applying to sit the exam by the ARRT.</p> <p>(See minutes of student orientation fall 2014, dated 8/26 and 8/28.)</p>
2. 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	2010: 83% 2011: 81% 2012: 77% as 9/21/2012 word of mouth 2013=94.6% 2014=100 5 year average=87%	<p>Benchmark met</p> <p>Action: Continue to monitor</p>
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	2009:100% 18/18 2010:94% 17/18 2011: 89% 16/18 2012: 89% 16/18 2013: 100% 17/17 5 year average = 94%	<p>Benchmark met</p> <p>The trend demonstrates that the majority of students are finding jobs.</p> <p>Action: Continue to monitor</p>

Students will complete the program.	Graduation roster	100%	End of program Program Director	n=17 2014: 94.6%	<p>Benchmark not met</p> <p>Action: 2014 One student dropped out of the program due to a chronic back injury the Program Completion Rate did not meet the program's benchmark which was 100%. 1 student dropped because of a chronic back problem. Analysis led to some changes to the Web site. This chronic back problem might have been caught prior to admission had faculty been more observant. Our goal is to have 100% of students accepted completing the program. The faculty have added a link on the department Web site addressing the physical demands of the profession, and have added this document to the student handbook; http://www.isu.edu/radsci/physicalreq.shtml.</p> <p>Action: The Program Director and Clinical Coordinator has made effort to assure that all students realize the importance of committing to finishing the program once they officially begin in the professional component. This will be discussed in the new student orientation this fall of 2014 for both the junior and senior classes.</p>
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<p>Graduates will be satisfied with their education by feeling prepared for their 1st job.</p>	<p>Graduate Alumni Survey</p>	<p>≥ 4 (5 point scale)</p>	<p>Alumni Survey Program Director</p>	<p>n=17 2014 = 4.9</p>	<p>Benchmark met</p> <p>Action: in 2014 this survey was administered at the closing banquet and the results were very favorable. All students participated by providing responses.</p> <p>Strengths Listed include: Excellent clinical facilities, new equipment, reputation, preparation for the registry exam, individual time each student receives with professors, quality learning atmosphere.</p> <p>Weaknesses include: Add interview for selection of students, rotate to other clinical facilities, more fluoroscopy time to learn procedures, getting more experience with DR, more practice of trauma protocol</p> <p>Action: An interview process has been added for the class of 2015 future students. All students are rotating to at least 2 facilities and have opportunity to rotate as seniors to modality specific rotations. All students experience a Primary Children's Hospital" field exercise. Labs in DR are becoming more robust for students who do not have DR in a clinical setting. Program is investigating adding additional sites that have DR capabilities.</p> <p>Most students are highly satisfied with the educational experience at ISU. This is also reflected in the "Student driven outcomes assessment" administered to all students each semester.</p>
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Employers will be satisfied with the performance of newly hired technologists	Employer Survey	≥ 4.0 (5point scale)	12 months post graduation Program Director	n=17 response rate was 5 2013=4.5	<p>Benchmark met</p> <p>Employer Survey for the class 2013.</p> <p>Seventeen surveys were sent out and 5 were received back with a 29% response rate.</p> <p>Results: All respondents would be willing to hire another graduate of the program.</p> <p>Additionally, in response to the question “If you were to rate the graduate on a scale of 1 to 5, with 5 being excellent, and 1 being poor, how would you rate the graduates’ overall job knowledge?” The overall score was a 4.5.</p> <p>In response to this question, “Are there any areas in the radiographic science curriculum at ISU that you believe should be stressed more or added?” 4 responses were “No” and 1 respondent checked “Yes”, phlebotomy experience and IV’s.</p> <p>Action: Students are given 2 different training experiences with phlebotomy; as a junior and a senior student. We encourage clinical sites to allow students to perform venipuncture.</p> <p>Action: An additional venipuncture lab has been added to the program, and was a direct result of this correspondence from employers.</p>
Faculty will review curriculum yearly.	Documentation in advisory committee meeting minutes or during JRCERT self study phase.	100% each year	Fall Semester Program Director	2013: 100%	<p>Benchmark met</p> <p>Reviewed in Advisory Committee meeting on October 18, 2013; reviewed ASRT BSRS curriculum document and compared objectives to ISU’s course syllabi; see meeting minutes.</p>