

# College of Southern Idaho

## Radiologic Technology Program Outcome Assessment Plan—Class of 2013

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

### Category 1: Graduate Performance

#### Goal 1: Program effectiveness will be measured on an ongoing basis.

Outcome	Tool	Benchmark	Time Frame	Responsibility	Result	Action
1. Enrolled students will complete the program.	CSI Institutional Research Graduation Report	≥ 80 % annual graduation rate.	Commencement (May)	Program Director	Yes 14/15 = 93.3%	Note: One student died at end of 4 <sup>th</sup> semester from MVA.
2. Graduates will pass the ARRT exam in radiography on the first attempt.	<p>A. Annual first time pass rate.</p> <p>B. 5 year first time pass rate.</p> <p>C. Annual program mean scaled score.</p> <p>D. 5 year program mean scale score.</p> <p>[Note: Data from the ARRT Radiography Examination Summary.]</p>	<p>A. ≥ 80 % Annual first time pass rate.</p> <p>B. ≥ 80 % 5 year first time pass rate.</p> <p>C. ≥ 80 Annual program mean scaled score.</p> <p>D. ≥ 80 % 5 year program mean scaled score.</p>	January 1 to December 31 for graduating class.	Program Director	<p>A. No Annual first time pass rate = 69%</p> <p>B. Yes 5 year first time pass rate = 92%</p> <p>C. No Annual program, mean scaled score = 78%</p> <p>D. Yes 5 year program mean scaled score (1/2009 to 12/2013) = 84 %</p>	<p>A. and C. Improve dealing with test anxiety.</p> <p>Improve study / review methods.</p> <p>Increase reinforcement of knowledge and skills in lectures, labs, demos.</p> <p>Seek higher self-motivated and academically stronger students..</p> <p>B. and D. None</p>

3. Graduates will be employed within 6 months.	Alumni Survey Question # 2.	≥ 80 % of those seeking employment of those surveys returned. (Excludes military and continuing education.)	Six months post-graduation.	Program Director	Yes 12/14 = 85.7%	We changed the Alumni Survey instrument delivery format.
4. Graduates will receive a quality education.	Alumni Survey Question # 1.	≥ 80% students answer YES of those who returned surveys and answered the question.	Last day of class during final spring semester.	Program Director	Yes 14/14 = 100%	None
5. Employers will be satisfied with the (hard – technical) performance of graduates.	Employer Survey Question #1 (#4)	≥ 95 % Combined satisfactory rating of those surveys returned.	Six months post - graduation.	Program Director	Yes 13/13 = 100%	Note: We changed outcome to reflect hard -technical performance of graduates and change the Tool to reflect question #4 of new survey.

**Category 2: Clinical Performance.**

**Goal 2: Students will be clinically competent.**

Outcome	Tool	Benchmark	Time Frame	Responsibility	Result	Action
1. Students will provide appropriate patient care	A. RADT 102 Patient Care in Radiography I Unite Exams # 4 – 7	A. ≥ 80 % Combined average score	A. First semester	A. Didactic Instructor	A. Yes 14/15 = 93.3% / Mean = 3(84.74%) = B	A. None
	B. RADT 150 Patient Care in Radiography II Unite Exams # 11 and 12.	B. ≥ 80 % Combined average score	B. Second semester	B. Didactic Instructor	B. Yes 14/15=93.3% Yes = 4 (92.4%) =A	B. Change 2.2.1.B Tool to: RADT 165 Fundamentals of CT IV Contrast Exam.
		C. ≥ 90 % First time pass rate on all competency	C. Third, Fourth, Fifth semesters	C. Clinical Coordinator	C. Yes 648/678=95.6%	C. None

	<p>C. All competency evaluation forms.</p> <p>D. All unsatisfactory competency exams. #1,2,9.</p>	<p>evaluations.</p> <p>D. <math>\leq 2\%</math> first time unsatisfactory rate of patient care tasks of all comps.</p> <p>(Note: We are counting comps, not tasks because it only takes one unsatisfactory to fail a comp. And, students may fail in one or more of the three areas for each Unsat comp.)</p>	<p>D. Third, Fourth or Fifth semester</p>	<p>D. Clinical Coordinator</p>	<p>D. Yes 4 Unsat comps/678 = .06% of total comps.</p>	<p>D. None Add special lab or quiz to reinforce 1,2 9. Note: First time we've assessed this benchmark.</p>
<p>2. Students will demonstrate quality positioning.</p>	<p>A. RADT 162 Radiographic Procedures II Unit Exams # 12 - 16.</p> <p>B. All unsatisfactory competency exams. #5,6,7.</p>	<p>A. <math>\geq 80\%</math> Combined average score.</p> <p>B. <math>\leq 2\%</math> first time unsatisfactory rate of positioning tasks.</p>	<p>A. Fourth semester</p> <p>B. Third, Fourth and Fifth semester</p>	<p>A. Didactic Instructor</p> <p>B. Clinical Coordinator</p>	<p>A. Yes 15/15 90.11%</p> <p>B. No 23 Unsat comps/678 = 3.4% of total comps.</p>	<p>A. None</p> <p>B. Increased reinforcement of positioning elements in lecture, demo, and lab.</p>
<p>3. Students will apply appropriate radiation safety principles.</p>	<p>A. RADT 152 Radiation Protection Unit Exams # 7 and 8.</p> <p>B - 1 All unsatisfactory competency exams</p>	<p>A. <math>\geq 80\%</math> Combined average score.</p> <p>B-1. <math>\leq 2\%</math> first time unsatisfactory rate of radiation safety</p>	<p>A. Second semester</p> <p>B-1. Third, Fourth and Fifth semester.</p>	<p>A. Didactic Instructor</p> <p>B-1. Clinical Coordinator</p>	<p>A. Yes 15/15 89.93%</p> <p>B-1. No 15 Unsat comps/678 = 2.2%</p>	<p>A. None</p> <p>B-1. Increased reinforcement of radiation protection elements in lecture,</p>

	#3, 4, 8. B - 2 Final grade determination form B. #1	tasks. B-2. ≥ Score of 4 on a scale of 1 – 5 (Strongly Disagree to Strongly Agree)	B-2. Fifth semester.	B-2. Clinical Coordinator	of total comps. B-2. Yes 4.86	demo and lab. B-2. None
4. Students will demonstrate the ability to evaluate image quality.	A. RADT 153 Image Analysis Unit and Final Exams 1-15, Final Exam A and B.  B. All unsatisfactory competency exams image quality assessment factors.	A. ≥ 80 % Combined average score.  B. ≤ 2% First time unsatisfactory rate of image quality assessment factors..	A. Second semester.  B. Third, Fourth and Fifth semester.	A. Didactic Instructor  B. Clinical Coordinator	A. Yes 15/15 Mean = 90.18% = A  B. No 21 Unsat comps/678 = 3.1%	B. None  B. Increased reinforcement of image analysis elements in lecture, demo, and lab.

### Category 3: Problem Solving and Critical Thinking

#### Goal 3: Students will possess problem solving and critical thinking skills.

Outcome	Tool	Benchmark	Time Frame	Responsibility	Result	Action
1. Students will apply ALARA exposure techniques resulting in quality images using optimum kVp/Low mAs for the exposure index range (S#, LgM, IE).	A. RADT 164 Imaging and Processing Unit Exams # 5, 6. (Note: Exposure Techniques and AEC units)	A. ≥ 80 % Combined average score.	A. Fourth Semester	A. Didactic Instructor	A. Yes 12/15 = 80% Mean = 85.33%	A. None.
	B. Final Grade Determination Form B. # 2 (Student thinks critically.)	B. ≥ Score of 4 on a scale of 1 – 5 (Strongly Disagree to Strongly Agree)	B. Fifth Semester	B. Clinical Coordinator	B. Yes 4.86 14/14 = 100%	B. None

2. Students will assess the quality of radiographic images.	RADT 182 Clinical Education III # 4 Mock Exam / Section 3: Image Production and Evaluation.	≥ 7.0 Combined average ARRT normalized section score.	Fifth Semester	Clinical Coordinator	Yes 14/14 Mean = 7.28	None
3. Students will adjust equipment operation and quality control factors.	RADT 182 Clinical Education III # 4 Mock Exam: Section 2: Equipment Operation and Quality Control	≥ 7.0 combined average ARRT normalized section score.	Fifth semester	Clinical Coordinator	No 14/14 Mean = 6.62	Continue to reinforce rad science and QA/QC elements of curriculum, especially during "problem solving.

<b>Category 4: Communication Skills</b>						
<b>Goal 4: Students will communicate and interact effectively with patients and staff.</b>						
Outcomes	Tools	Benchmark	Time Frame	Responsibility	Result	Action
1. Students will engage in productive radiography-related discussions with patients, staff and each other.	Clinical Education Grade determination Form B # 5.	≥ Score of 4 on a scale of 1 – 5, (Strongly Disagree to Strongly Agree).	Fifth semester.	Clinical Coordinator	Yes 4.86 14/14 = 100%	None
2. Students in didactic setting will communicate effectively in writing.	A. Post certification report.  B. Post certification report.	A. ≥ 8 points combined satisfactory rating . B. ≥ 8 points combined satisfactory rating .	A. Third semester.  B. Fifth semester.	A. Clinical Coordinator  B. Clinical Coordinator.	A. Yes 15/15 Mean = 9.4 pts B. Yes 14/14 (Minus Chelsea) Mean = 9.6 pts	A. None  B. None

<b>Category 5: Professional Growth and Development</b>						
<b>Goal 5: Students and graduates will behave ethically.</b>						
Outcomes	Tools	Benchmark	Tim Frame	Responsibility	Result	Action
1. Students will apply the employability skills of a radiographer.	Final Grade Determination Form B. #1-5	≥ 90 % Combined satisfactory rating. (out of 30 points.)	Fifth semester.	Clinical Coordinator.	Yes 14/14 Mean= 28.95/30=96.5%	None
2. Graduates will apply the (soft-personal) employability skills of an RT (R).	Employer's Survey # 5.	≥ 95 % Combined satisfactory rating of those surveys returned.	Six months post graduation.	Program Director	YES 13/13 = 100 %  Note: Expecting higher responses using survey monkey, if employers will take survey.	NOTE: New survey delivery format sent to employers during June, 24, 2014 to test improved data collection and analysis.  Change 5.5.2. Outcome to: Graduates will apply the soft – personal employability skills of an RT (R).  Change 5.5.2. Tool to: Employer's Survey # 5 (personal skills).
3. Students will develop a five year career development plan.	Five Year Career Development Plan	≥ 90 % Combined satisfactory rating.	Fourth semester	Clinical Coordinator	No 15/15 88.7%	None. Two students who scored a 75% and 60% increasingly lacked motivation that resulted in one not passing the Registry exam and the other not taking the exam.

**College of Southern Idaho  
Radiologic Technology Program  
Program Advisory Committee Meeting Minutes  
For the Class of 2013 Outcomes Assessment Plan  
Feb 17, 2016 – 10 am to 2 pm – HSHS 139 (Lunch) & 178**

**NOTE:** Due to several member scheduling conflicts, review and approval of the Class of 2013 Outcome Assessment Plan data which was scheduled for the Summer Session 2014 Program Advisory Committee on July 17<sup>th</sup> was cancelled. Instead, Gary Lauer sent all members a copy of the Outcome Assessment Plan data for the Class of 2013 for review and comments (which there were none). The meeting was rescheduled tentatively for mid-February, 2015 which also was cancelled due to scheduling conflicts resulting in further rescheduling for the upcoming Summer of 2015. However, Gary Lauer had an emergency health crisis that resulted in surgery in June of 2015 and recovery in July 2015 which necessitated a third cancellation of the Program Advisory Committee meeting. Finally, the Program Advisory Committee assembled on February 17, 2016 for review and approval of two back-logged Outcome Assessment Plans regarding the Classes of 2013 and 2014.

Members Present at the February 17, 2016 Meeting: Dr. Gary Lauer, Tamara Janak, Rene Rambur, Janet Milligan, Dr. RoseAnna Holliday, Jayson Lloyd, Martha Scott, Merry Olson, Jeff Shelton, Lawrence Blamires, Dennis Buettner, Robert Schramm, Jake Kerley. Members Absent: Ron Jones, Ryan Mumford, Kandis Petersen, Lindsay Smith.

Motion to Accept the Class of 2013 Outcome Assessment plan and data as presented by Gary and Tamara was made by member Dennis Buettner and seconded by member Robert Schramm.

**Program Effectiveness Measures  
(Category I: Graduate Performance)**

Program Completion Rates	Benchmark for 1.1.1. of $\geq 80\%$ annual graduation rate was met at 93.3%. <b>(NOTE: One member of this class died in a motor vehicle accident at the end of the fourth semester of training.)</b>
ARRT Pass Rates	2 out of 4 benchmarks for 1.1.2. were met. Benchmark 1.1.2.A. of $\geq 80\%$ annual first time pass rate was <b>not</b> met at 69%. Benchmark for 1.1.2.C of $\geq 80\%$ annual program mean scaled score was <b>not</b> met at 78%. <b>(NOTE: There were four first time failures and one individual who elected not to take the Registry</b>

	<b>exam. One passed the Registry exam on the second attempt. Corrective actions for 1.1.2.A and 1.1.2.C include dealing with test anxiety, improved study / review methods, increased reinforcement of knowledge and skills in lectures, labs, demos; and seek higher self-motivated and academically stronger students.) (NOTE: Class of 2014 with 12 out of 14 having taken the Registry exam has a 91.6% annual first time pass rate, evidencing a significant improvement from the annual first time pass rate of 78% for the Class of 2013.) (NOTE: The program historically has enjoyed a high first time program pass rate as reflected in the 5 year first time pass rate of 92%.)</b>
Employment Rates	Benchmark for 1-1-3 of $\geq 80\%$ of those seeking employment of those surveys returned (excluding military and continuing education) was met at 85.7%. <b>(NOTE: One graduate went to RTT school and another could not be reached for data collection.)</b>
Graduate Satisfaction	Benchmark for 1-1-4 of $\geq 80\%$ students received a quality education was met at 100%.
Employer Satisfaction (of Graduate Technical Skills).	Benchmark for 1.1.5 $\geq 95\%$ combined satisfactory rating of those surveys returned was met at 100%.
Amendments to Category I: Graduate Performance (Program Effectiveness	<b>Change 1.1.5. Outcome to: Employers will be satisfied with the hard-technical performance of graduates.</b> <b>Change 1.1.5. Tool to: Employer survey question #4 (relates to technical skills) on new survey.</b>
Summary	6 out of 8 benchmarks reflecting 5 outcomes were met for Category I: Graduate Performance. Students are completing the program, passing the registry exam, gaining employment, receiving a quality education, and satisfying employers with their technical competence.
<b>Student Learning Outcomes (Categories II – V)</b>	
Category II: Clinical Performance	8 out of 11 benchmarks for this goal were met except 2.2.2.B (Radiographic Positioning), 2.2.3.B-1 (Radiation Safety), and 2.2.4.B (Image Quality). <b>There will be an increased awareness and reinforcement of these critical content areas during all lectures, demonstrations, and labs. (NOTE: The class of 2014 demonstrated that we have been effective in correcting this problem after increasing awareness and reinforcement of these critical content areas).</b>
Amendments to Category II: Clinical	<b>Change Tool: 2.2.1.B to RADT 165 Fundamentals of CT Unit Exam 4 (IV Contrast). Rationale: This content was absorbed in RADT 165 when RADT 102 was discontinued at last curriculum change</b>

Performance	<b>Nov. 2012.</b>
Summary	8 out of 11 benchmarks reflecting 4 outcomes for Category II: Clinical Performance was met. The program appears effective in preparing students to become clinically competent as entry level radiographers. Students seem to be evidencing an understanding of professional communications, safety and transfer of patients, patient care and assessment, infection control, how to deal with acute situations and exam prep. They are demonstrating quality positioning skills for both entry level noninvasive and invasive procedures in class and in clinical education. They are applying appropriate radiation safety measures in protecting the patient, themselves and others. They are correctly evaluating images on non-routine patients.
Category III: Problem Solving and Critical Thinking	3 out of 4 benchmarks for this goal were met. The benchmark of $\geq 7$ combined average normalized mock section score was <b>not</b> met for 3-3-3 again this year. The mock normalized section score for “equipment operations and quality control (radiologic science)” was 6.62. <b>(NOTE: We assessed the math backgrounds of the four lowest scoring students for this section and found three individuals with “C” grades in high school and college math; a strong indication why these students struggled with RADT 101 Rad Science concepts. The fourth individual had decent math grades but during the middle of her training it became obvious that her studies became less of a priority; an indication why students need to be strongly committed to achieving the highest possible Registry exam score.) (NOTE: The actual ARRT Registry section score for “equipment operations and quality control” for the Class of 2013 was 7.5, which exceeded the 6.62 normalized section score by .88 points.) (NOTE: For the Class of 2014 who will be assessed in summer of 2015, their combined mock section score was 7.8 - -a significant improvement by 1.18 points.)</b>
Amendments to Category III: Problem Solving and Critical Thinking	None
Summary	3 out of 4 benchmarks reflecting 3 outcomes for Category III: Problem Solving and Critical Thinking were met. The program appears effective in providing problem solving and critical thinking skills. Students learn how to set fixed and variable exposure techniques in the production of quality images. They learn how to evaluate image quality and demonstrate this understanding during competency evaluations. ALARA exposure techniques are being selected by the students and monitored by RT evaluators, clinical instructors and the program’s clinical coordinator.

Category IV: Communication Skills	3 out of 3 benchmarks for Category IV: Communication Skills was met.
Amendments to Category IV: Communication Skills	None.
Summary	3 out of 3 benchmarks reflecting 2 outcomes for Category IV: Communication Skills was met. The program appears effective in having students communicate effectively orally and in writing with patients, staff and faculty.
Category V: Professional Growth and Development	2 out of 3 benchmarks for this goal were met. <b>(NOTE: We developed a new protocol using SurveyMonkey.com for more effective email collection of data and analysis of the employer survey and changed 5.5.2. benchmark to reflect new survey question # 4 (technical skills) and 5 (personal skills).)</b> The benchmark of $\geq 90\%$ combined satisfactory rating on the development of a five year career plan for 5.5.3 was <b>not</b> met at 88.7 %. <b>(NOTE: Two students increasingly lacked motivation that resulted in one not passing the Registry exam and the other not taking the exam; a definite reorganization of their career priorities. We will consider revamping our marketing plan to insure filtering for highly self-motivated who are focused on becoming RT radiographers.)</b>
Amendments to Category V: Professional Growth and Development	<b>Change 5.5.2 Outcome to: Graduates will apply the (soft-personal) employability skills of an RT (R). Change 5.5.2 Tool to: Employer Survey Question # 5. (NOTE: We have already made this change in an attempt to secure an improved data collection protocol for the employer survey that we have already implemented using SurveyMonkey.com. Still employers who have been emailed a second time are not responding as expected. But, we just sent this survey out a few days ago and only have 3 responses.)</b>
Summary	2 out of 3 benchmarks reflecting 3 outcomes for Category V: Professional Development were met. The program appears effective in having students applying the values, ethics and compassion of a radiographer. They are developing a 5 year career development plan.
<b>Assessment Plan Review</b>	
Mission Statement	Recommend no changes to the program mission statement.
Goals	Recommend no changes to the program goals.
Recommended changes to the assessment plan.	NOTE: 22 out of 29 benchmarks (75.8%) reflecting 17 outcomes covering five goals were met <b>Change 1.1.5. Outcome to: Employers will be satisfied with the technical performance of graduates.</b>

	<b>Change 1.1.5. Tool to: Employer survey question #4 (relates to technical skills) on new survey.</b>
	<b>Change Tool: 2.2.1.B to RADT 165 Fundamentals of CT Unit Exam 4 (IV Contrast).</b>
	<b>Change 5.5.2. Outcome to: Graduates will apply the (soft-personal) employability skills of an RT (R).</b>
	<b>Change 5.5.2 Tool to: Employer Survey Question # 5.</b>
	<b>Final thoughts: None.</b>