

# PROGRAM ASSESSMENT REPORT

<b>Program Code: APRAD</b>	<b>Name: Radiography Program</b>		
<b>Division: Health Science</b>	<b>Department: Allied Health Department</b>		
<b>Award</b>	<input type="checkbox"/> A.A.	<input type="checkbox"/> A.S	<input checked="" type="checkbox"/> A.A.S.
	<input type="checkbox"/> Cert.	<input type="checkbox"/> Adv. Cert.	<input type="checkbox"/> Post-Assoc. Cert. <input type="checkbox"/> Cert. of Completion

## I. Review previous assessment reports submitted for this program and provide the following information.

### 1. Was this program previously assessed and if so, when?

The Radiography Program annual assessment for the Class of 2023 was submitted in the 2025 winter semester.

### 2. Briefly describe the results of previous assessment report(s).

In assessing the standards of success and student performance within the Radiography program, several key achievements and metrics have emerged that highlight the program's effectiveness and the competence of its students.

The program has established high benchmarks for various aspects of student performance, particularly in simulation exercises. Notably, students excelled in the RAD 150 Radiographic Positioning Simulations, achieving a remarkable average score of 97.7%, surpassing the 90% success standard.

Final clinical performance evaluations also reflected strong outcomes, with students consistently scoring above the required thresholds. In operating radiographic equipment, students achieved an average score of 4.08 on a 1-5 scale, while their effective oral communication skills garnered an impressive average of 4.36. Additionally, problem-solving skills in clinical settings were evidenced by an average score of 4.6 in RAD 225, exceeding expectations.

Simulated skill evaluations further showcased student competence. In basic patient care skills, students reached an average score of 90% on vital signs assessments, demonstrating proficiency. In other competencies, such as patient transfer, they recorded an average score of 45 out of 48 points.

Writing skills have also proven to be a strength amongst students, with the cohort meeting standards for research papers, having received average scores of 97 and 99 on assignments related to contrast studies and advanced training research.

Ethical awareness and communication skills in patient care were highlighted through assignments like the ARRT Code of Ethics, where students averaged 38.91 out of 40, and a writing assignment scored an average of 92 out of 100 points, both exceeding established benchmarks.

The program's effectiveness measures indicate a robust framework for preparing students for their future careers. Over the past five years, the average pass rate for the ARRT credentialing examination has maintained an impressive 99%, with graduates actively seeking employment achieving a 95% job placement rate within 12 months of graduation. Furthermore, the completion rate for students within the program's two-year sequence reached 82%, exceeding the 70% benchmark. Exit surveys illustrate the graduates' satisfaction with their preparation for entry-level positions, with an average score of 4.9 on a 5-point scale. Employer evaluations also confirm that graduates are well-prepared, reflected in an average score of 3.87 on a 4-point scale in professional skills evaluations.

### 3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

#### **SLO 1.1 - Students will perform diagnostic radiographic procedures.**

The benchmark for assessment tool RAD 240 - Final Clinical Performance Evaluation: Competency Maintenance – 2nd statement “When the student is involved in procedures previously mastered, the

student is able to perform the exam perform the exam with minimal assistance” will be changed from Average score  $\geq 3.5$  (1 – 5-point scale) to Average score  $\geq 4$  (1 – 5-point scale).

**Program Effectiveness Measure**

**Initial Student Outcome** – The 5-year average job placement rate of graduates actively seeking employment is no less than 75% within 12 months of graduation.

**New Student Outcome** - The 5-year average job placement rate of graduates actively seeking employment is no less than 75% within 6 months of graduation.

All changes were implemented for the Class of 2024 assessment cycle.

## II. Background Information

1. Indicate the semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2022, 2023	2023, 2024	2022, 2023, 2024

2. Assessment tool(s) used (check all that apply):

- ☐ Portfolio
- ☐ Standardized test
- ☒ Other external certification/licensure exam (please describe): ARRT Certification Exam
- ☒ Graduate Survey
- ☐ Employer Survey
- ☐ Advisory Committee Survey
- ☐ Transfer follow-up
- ☐ Externally evaluated performance or exhibit
- ☒ Externally evaluation of job performance (internship, co-op, placement, other)
- ☐ Capstone experience (please describe):
- ☒ Other (please describe): Embedded Assessments

3. Have any of these tools been used before?

- ☒ Yes (if yes, identify the tool below and describe any changes made since it was last administered)
- ☐ No

Changes:

No changes were made for this report.

4. Indicate the number of students assessed/total number of students enrolled in the course(s)/program.

Thirty-two (32) students enrolled in the spring of 2022

5. Describe how you selected students for the assessment.

a. Describe your sampling method.

b. Describe the population assessed (e.g. students in capstone course, graduating students, alumni).

A. Radiography students initially enrolled in the spring of 2022 – **Class of 2024**

B. Semesters used for assessment:

**1<sup>st</sup> Year:** Spring/Summer 2022, Fall 2022, Winter 2023, Spring/Summer 2023

**2<sup>nd</sup> Year:** Fall 2023, Winter 2024, Spring 2024

### III. Results

1. State every outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program. *Add more lines as needed.*

<b>Goal 1: Clinical Competency: Students will demonstrate proficiency in technical and clinical skills.</b>
1.1 Students will perform diagnostic radiographic procedures.
1.2 Students will demonstrate the ability to perform basic patient care assessment skills.
<b>Goal 2: Critical Thinking: Students will demonstrate critical thinking and problem-solving skills.</b>
2.1 Students will calculate correct exposure factors.
2.2 Students will solve problems in the clinical setting.
<b>Goal 3: Communication Skills: Students will demonstrate the ability to effectively communicate orally and in writing.</b>
3.1 Students will use effective oral communication skills in the clinical setting.
3.2 Students will practice writing skills.
<b>Goal 4: Professional and Ethical Principles: Students will demonstrate the ability to analyze and address ethical and medical issues in patient care while exhibiting professionalism in the clinical setting.</b>
4.1 Students will recognize the ethical and medical issues in patient care.
4.2 Students will exhibit professional behaviors in the clinical setting.
<b>Goal 5: Program Effectiveness Measures:</b>
5.1 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.
5.2 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation.
5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

2. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected (as a separate document).*** *Add more lines as needed.*

For the Class of 2024, the program's assessment data summary has been provided with this report. It will provide details for each student learning outcome.

3. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment (as a separate document).*** *Add more lines as needed.*

The standard of success varied for each tool (Please review the Annual Assessment Report attached).

The following is a summary of the standards of success and student performance:

1. Standard of success for simulation exercises:

- Students will score 90% or higher. RAD 150 Radiographic Positioning Simulations Exercise (Upper and Lower Extremities, and the Spinal Column) – **average score 97.2%**

2. Standard of success for final clinical performance evaluations:

- Operating Radiographic Equipment (1.1 RAD 120): Students will score an average of  $\geq 4$  (1-5 point scale). All benchmarks were met by the cohort for each evaluation - **average score 4.12**
- Solving Problems in the Clinical Setting (2.2 RAD Student Prof. Skills Evaluation) Students will score an average of  $\geq 3$  (1-4 point scale). **average score 3.84** – ( 2.2 RAD 225) Students will score an average of  $\geq 4$  (1-5 point scale) **average score 4.82**
- Using Effective Oral Communication Skills (3.1 RAD 120) Students will score an average of  $\geq 4$  (1-5 point scale) – **average score 4.5** (3.1 RAD Student Prof. Skills Evaluation) Students will score an average of  $\geq 3$  (1-4 point scale) – **average score 3.92** All benchmarks were met by the cohort for each evaluation.
- Exhibiting Professional Behaviors in the Clinical Setting (4.2 RAD150) Students will score an average of  $\geq 4$  (1-5 point scale) **average score 4.58**

3. Standard of success for simulated skill evaluations.

- Performing Basic Patient Care Skills (1.2 RAD 222 Skills Check Out for Vital Signs – Students will score 90% or higher. Average score  $\geq 83$  for 90 points ) **average score 90**
- Performing Basic Patient Care Skills (1.2 RAD 101 Patient Transfer Competency – average score  $\geq 40$  for 48 points ) **average score 45.8**

4. Standard of success for demonstrating writing skills: Students will score an average of  $\geq 80$  points (100 point rubric). All benchmarks were met by the cohort for each research paper
  - Contrast Study Paper (3.2 RAD 120) **average score 95.5**
  - Advanced Level Training Research Paper (3.2 RAD 225) **average score 98**
5. Standard of success for calculating exposure factors.
  - Lab Assignment Effect of Distance on Density Maintenance Formula (2.1 RAD 124 – average score  $\geq 20$  for 26 points) **average score 24.67**
  - Radiographic Technique Manual Project (2.1 RAD 217 – average score of 90% or higher 100 points) **average percentage 97.2**
6. Standard of success for students recognizing ethical and medical issues in patient care.
  - RAD 222 ARRT Code of Ethics Assignment (4.1 RAD 222 – average score  $\geq 32$  for 40 points) **average score 39.81**
  - Writing assignment – Patient/Coworker Communication and Cultural Diversity (4.1 RAD 110 – average score 80 points or higher using 100-point rubric) **average score 95**
8. Standard of success – Program Effectiveness Measures
  - The 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt. The 5-year average for this report is **99%**.
  - The 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 6 months of graduation. The 5-year average for this report is **96%**.
  - Students admitted to the program will successfully complete the program within the 2-year sequence. The established benchmark is 70% of the students admitted and enrolled in the program will complete the program within two years. The 5-year average for this report is 75%. The benchmark was met for this cohort (Class of 2023) – **completion rate 92%**.
  - Graduates will indicate that the program adequately prepared them for entry-level positions. Using a graduate exit survey question, students will confirm with an average score of  $\geq 3$  on a 5-point scale. The average score remained consistent from the previous year at **4.68**.
  - Employers will indicate that the program graduates are adequately prepared for entry-level positions. Using a Radiography Student Professional Skills Evaluation sent to clinical managers – average score of  $\geq 3$  from a 4-point scale. The average score for this report is **3.92**.

4. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

#### Strengths:

The evaluation of the radiography program demonstrates substantial strengths across various performance measures and success standards. Notably, the students excelled in simulation exercises, achieving an impressive average score of 97.2% in the RAD 150 Radiographic Positioning Simulations Exercise. This reflects their thorough understanding and application of radiographic positioning techniques in both the upper and lower extremities as well as the spinal column.

In terms of clinical performance evaluations, students consistently performed above established benchmarks. Notably, the average score for operating radiographic equipment was 4.12 on a scale of 1 to 5, and scores for problem-solving skills in clinical settings were also high, with averages reaching 4.82. Communication skills received praise as well, where students averaged 4.5, showcasing their ability to interact effectively within the clinical environment. Professional behaviors similarly received recognition, with an average score of 4.58, suggesting students are well-equipped to handle real-world situations with professionalism.

Writing skills were another strength, as evidenced by outstanding average scores of 95.5 and 98 for research papers related to contrast studies and advanced training, respectively. This reflects not only comprehension of complex material but also the ability to articulate findings effectively.

Program effectiveness measures also reflect a high level of success. The five-year average pass rate for the ARRT credentialing examination is an outstanding 99%, while job placement rates for graduates actively seeking employment stand at 96%, considerably exceeding the 75% benchmark. Furthermore, a 92% completion rate within two years assures sustained commitment and success among students, and feedback from graduates and employers demonstrates preparedness for entry-level positions, with scores of 4.68 and 3.92, respectively.

Weaknesses:

No major weaknesses were identified during this review cycle.

#### IV. Changes influenced by assessment results

1. Based on the previous assessment report Action Plan(s) identified in Section I above, please discuss how effective any changes were in improving student learning.

**SLO 1.1 - Students will perform diagnostic radiographic procedures.**

The benchmark for assessment tool RAD 240 - Final Clinical Performance Evaluation: Competency Maintenance – 2nd statement was changed from an Average score  $\geq 3.5$  (1 – 5-point scale) to an Average score  $\geq 4$  (1 – 5-point scale).

*While there was no major impact on the cohort's performance regarding this change (average score 4.92), the update reflects a commitment to achieving higher competency standards within clinical practice.*

**Program Effectiveness Measure**

**New Student Outcome** - The 5-year average job placement rate of graduates actively seeking employment is no less than 75% within 6 months of graduation.

*The primary reason for this change was to align assessments with current labor market dynamics while allowing for timely annual assessment reports and facilitating immediate feedback for continuous program improvement. This was achieved, as evidenced by the completion of the 2024 annual assessment data by January 2025.*

2. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses. If students met all expectations, describe your plan for continuous improvement.

**Plans for Continuous Improvement -**

The program faculty has recommended several significant updates to enhance student assessments and improve educational outcomes. For Student Learning Outcome (SLO) 2.2, the assessment tool for evaluating problem-solving in clinical settings will transition from the RAD 225 Final Evaluation to the RAD 150 Final Performance Evaluation. This change aims to establish an early benchmark for critical thinking and problem-solving skills, allowing for targeted support throughout students' education.

For SLO 3.2, the writing skills assessment will shift from the RAD 120 Contrast Case Study Paper to the RAD 110 Clinical Site Orientation Paper. This new assignment focuses on practical clinical communication and emergency response, reinforcing the significance of writing skills in real-world scenarios and strengthening critical thinking.

Lastly, the program's effectiveness measure will see an increase in the benchmark for student completion rates from 70% to 80%. This adjustment comes in response to favorable trends in completion rates, which consistently exceeded the initial target, reflecting the faculty's commitment to fostering academic achievement and enhancing student retention.

3. Identify any other intended changes that will be instituted based on results of this assessment activity. Describe changes and give rationale for change. (Check all that apply).
- a. ☒ Outcomes/assessments from Program Assessment Planning or Program Proposal form:
  - b. ☐ Program Curriculum:
    - ☐ Course sequencing
    - ☐ Course deletion
    - ☐ Course addition
    - ☐ Changes to existing program courses (specify):
    - ☐ Other (specify):
  - c. ☐ Other (specify):

4. What is the timeline for implementing these actions?

These changes will be implemented for the Class of 2025 annual assessment data.

V. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools utilized in the 2024 Radiography Program were effective in measuring student achievement of the outlined learning outcomes. However, it is crucial for faculty members to consider updating assessment tools periodically. As the field of radiography evolves with advancements in technology and techniques, assessment methods must also adapt to remain relevant and effective.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

N/A

Submitted by:

Name: William Nelson Print/Signature William Nelson, MA, RT(R) Digitally signed by William Nelson, MA, RT(R)  
Date: 2025.02.14  
08:20:38 -05'00' Date: 2/14/2025

Department Chair: Kristina Sprague Print/Signature Kristina Sprague Digitally signed by Kristina Sprague  
Date: 2025.02.24  
11:15:37 -05'00' Date: \_\_\_\_\_

Dean: Shari Lambert Print/Signature Shari Lee Lambert, DNP, RN Digitally signed by Shari Lee Lambert, DNP, RN  
Date: 2025.03.10  
12:27:39 -04'00' Date: \_\_\_\_\_

**Please return completed form to the Office of Curriculum & Assessment, SC 257.**

Assessment Committee Chair: Jessica Hale Date: \_\_\_\_\_

# PROGRAM ASSESSMENT REPORT

<b>Program Code: APRAD</b>	<b>Name: Radiography Program</b>	
<b>Division: Health Science</b>	<b>Department: Allied Health Department</b>	
<b>Award</b> <input type="checkbox"/> A.A. <input type="checkbox"/> A.S. <input checked="" type="checkbox"/> A.A.S. <input type="checkbox"/> Cert. <input type="checkbox"/> Adv. Cert. <input type="checkbox"/> Post-Assoc. Cert. <input type="checkbox"/> Cert. of Completion		

## I. Review previous assessment reports submitted for this program and provide the following information.

### 1. Was this program previously assessed and if so, when?

The Radiography Program annual assessment for the Class of 2022 was submitted in the 2024 winter semester.

### 2. Briefly describe the results of previous assessment report(s).

The program demonstrated success across various metrics and standards for the Class of 2022. In simulation exercises, students excelled, achieving an impressive average score of 98% in the RAD 150 Radiographic Positioning Simulations. For final clinical performance evaluations, the cohort surpassed established benchmarks in operating radiographic equipment, effective communication, problem-solving, and professional behavior, with average scores ranging from 3.77 to 4.86 on their respective scales.

In simulated skill evaluations, students achieved perfect scores in basic patient care skills for venipuncture and near-perfect scores in patient transfer competencies. Writing skills were equally impressive, with research papers like the Contrast Study and Advanced Level Training Research showing average scores of 97 and 98 respectively.

When evaluating exposure factor calculations, students again met and exceeded standards with average scores of 24 out of 26 points in lab assignments and 97.6% in the radiographic technique manual project. However, the program noted a slight shortfall in students valuing lifelong learning, with an average survey score of 2.85, falling below the benchmark of 3.

In ethical awareness and communication, students achieved full marks in homework essays and high scores in writing assignments on cultural diversity. The program's effectiveness is highlighted by a remarkable 5-year average pass rate of 99% for the ARRT credentialing exam, a job placement rate of 96%, and an 80% completion rate for students within the two-year program. Graduate exit surveys reflected strong satisfaction, with scores of 4.9 confirming adequate preparedness for entry-level positions, while employers rated graduates' preparedness at an average of 3.82.

### 3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

#### **SLO 1.1 - Students will perform diagnostic radiographic procedures.**

**Initial Assessment Tool** – RAD 150 - Radiographic Positioning Simulation Exercises (Spinal Column)

**New Assessment Tool** - RAD 150 - Radiographic Positioning Simulation Exercises (Upper Extremities, Lower Extremities, and Spinal Column)

#### **SLO 1.2 - Students will demonstrate the ability to perform basic patient care assessment skills.**

**Initial Assessment Tool** – RAD 222 Patient Assessment Skills Check-Out Form: Venipuncture

**New Assessment Tool** - RAD 222 Patient Assessment Skills Check-Out Form: Vital Signs

#### **SLO 4.1 - Students will recognize the ethical and medical issues in patient care.**

**Initial Assessment Tool** – RAD 103 – Unit 4 Homework Essay Questions on Ethical and Medical Issues in Patient Care

**New Assessment Tool** - RAD 222 ARRT Code of Ethics Assignment

**SLO 4.2 - Students will exhibit professional behaviors in the clinical setting.**

**Initial Assessment Tool** – Radiography Student Professional Skills Evaluation: 2nd statement  
 “The student communicates with fellow students, staff, managers, and physicians in a manner you would expect /require of an entry-level radiographer.”

**New Assessment Tool** - Radiography Student Professional Skills Evaluation: 12th statement “The student uses professional judgment and shows respect for organizational policies and norms.”

All changes will be implemented for the Class of 2023 assessment cycle.

## II. Background Information

1. Indicate the semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2021, 2022	2022, 2023	2021, 2022, 2023

2. Assessment tool(s) used (check all that apply):

- ☐ Portfolio
- ☐ Standardized test
- ☒ Other external certification/licensure exam (please describe): ARRT Certification Exam
- ☒ Graduate Survey
- ☐ Employer Survey
- ☐ Advisory Committee Survey
- ☐ Transfer follow-up
- ☐ Externally evaluated performance or exhibit
- ☒ Externally evaluation of job performance (internship, co-op, placement, other)
- ☐ Capstone experience (please describe):
- ☒ Other (please describe): Embedded Assessments

3. Have any of these tools been used before?

- ☒ Yes (if yes, identify the tool below and describe any changes made since it was last administered)
- ☐ No

*Changes:*

*No changes were made for this report.*

4. Indicate the number of students assessed/total number of students enrolled in the course(s)/program.

Thirty-four (34) students enrolled in the spring of 2021

5. Describe how you selected students for the assessment.

- a. Describe your sampling method.
- b. Describe the population assessed (e.g. students in capstone course, graduating students, alumni).

A. Radiography students initially enrolled in the spring of 2021 – **Class of 2023**

B. Semesters used for assessment:

**1<sup>st</sup> Year:** Spring/Summer 2021, Fall 2021, Winter 2022, Spring/Summer 2022

**2<sup>nd</sup> Year:** Fall 2022, Winter 2023, Spring 2023



### III. Results

1. State every outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program. *Add more lines as needed.*

<b>Goal 1: Clinical Competency: Students will demonstrate proficiency in technical and clinical skills.</b>
1.1 Students will perform diagnostic radiographic procedures.
1.2 Students will demonstrate the ability to perform basic patient care assessment skills.
<b>Goal 2: Critical Thinking: Students will demonstrate critical thinking and problem-solving skills.</b>
2.1 Students will calculate correct exposure factors.
2.2 Students will solve problems in the clinical setting.
<b>Goal 3: Communication Skills: Students will demonstrate the ability to effectively communicate orally and in writing.</b>
3.1 Students will use effective oral communication skills in the clinical setting.
3.2 Students will practice writing skills.
<b>Goal 4: Professional and Ethical Principles: Students will demonstrate the ability to analyze and address ethical and medical issues in patient care while exhibiting professionalism in the clinical setting.</b>
4.1 Students will recognize the ethical and medical issues in patient care.
4.2 Students will exhibit professional behaviors in the clinical setting.
<b>Goal 5: Program Effectiveness Measures:</b>
5.1 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.
5.2 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation.
5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

2. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected (as a separate document).*** *Add more lines as needed.*

For the Class of 2023, the program's assessment data summary has been provided of this report. It will provide detailed for each student learning outcome.

3. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment (as a separate document).*** *Add more lines as needed.*

The standard of success varied for each tool (Please review the Annual Assessment Report attached).

The following is a summary of the standards of success and student performance:

1. Standard of success for simulation exercises:

- Students will score 90% or higher. RAD 150 Radiographic Positioning Simulations Exercise (Upper and Lower Extremities, and the Spinal Column) – **average score 97.7%**

2. Standard of success for final clinical performance evaluations:

- Operating Radiographic Equipment (1.1 RAD 120): Students will score an average of  $\geq 4$  (1-5 point scale). All benchmarks were met by the cohort for each evaluation - **average score 4.08**
- Using Effective Oral Communication Skills (3.1 RAD 120) Students will score an average of  $\geq 4$  (1-5 point scale) – **average score 4.36** (2.1 RAD Student Prof. Skills Evaluation) Students will score an average of  $\geq 3$  (1-4 point scale) – **average score 4** All benchmarks were met by the cohort for each evaluation.
- Solving Problems in the Clinical Setting (2.2 RAD Student Prof. Skills Evaluation) Students will score an average of  $\geq 3$  (1-4 point scale). **average score 3.83** – ( 2.2 RAD 225) Students will score an average of  $\geq 4$  (1-5 point scale) **average score 4.6**
- Exhibiting Professional Behaviors in the Clinical Setting (4.2 RAD150) Students will score an average of  $\geq 4$  (1-5 point scale) **average score 4.42**

3. Standard of success for simulated skill evaluations.

- Performing Basic Patient Care Skills (1.2 RAD 222 Skills Check Out for Vital Signs – Students will score 90% or higher. Average score  $\geq 83$  for 90 points ) **average score 90**
- Performing Basic Patient Care Skills (1.2 RAD 101 Patient Transfer Competency – average score  $\geq 40$  for 48 points ) **average score 45**

4. Standard of success for demonstrating writing skills: Students will score an average of  $\geq 80$  points (100 point rubric). All benchmarks were met by the cohort for each research paper
  - Contrast Study Paper (3.2 RAD 120) **average score 97**
  - Advanced Level Training Research Paper (3.2 RAD 225) **average score 99**
5. Standard of success for calculating exposure factors.
  - Lab Assignment Effect of Distance on Density Maintenance Formula (2.1 RAD 124 – average score  $\geq 20$  for 26 points) **average score 24.1**
  - Radiographic Technique Manual Project (2.1 RAD 217 – average score of 90% or higher 100 points) **average percentage 98.5**
6. Standard of success for students recognizing ethical and medical issues in patient care.
  - RAD 222 ARRT Code of Ethics Assignment (4.1 RAD 222 – average score  $\geq 32$  for 40 points) **average score 38.91**
  - Writing assignment – Patient/Coworker Communication and Cultural Diversity (3.1 RAD 110 – average score 80 points or higher using 100 point rubric) **average score 92**
8. Standard of success – Program Effectiveness Measures
  - The 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt. The 5-year average for this report is **99%**.
  - The 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation. The 5-year average for this report is **95%**.
  - Students admitted to the program will successfully complete the program within the 2-year sequence. The established benchmark is 70% of the students admitted and enrolled in the program will complete the program within two years. The 5-year average for this report is 75%. The benchmark was met for this cohort (Class of 2023) – **completion rate 82%**.
  - Graduates will indicate that the program adequately prepared them for entry-level positions. Using a graduate exit survey question, students will confirm with an average score of  $\geq 3$  from a 5 point scale. The average score remained consistent from the previous year at **4.9**.
  - Employers will indicate that the program graduates are adequately prepared for entry-level positions. Using a Radiography Student Professional Skills Evaluation sent to clinical managers – average score of  $\geq 3$  from a 4 point scale. The average score for this report is **3.87**.

4. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

#### Strengths:

The program demonstrates exceptional effectiveness across multiple evaluation standards. Students excelled in radiographic positioning simulations, achieving an impressive average score of 97.7%. Clinical performance evaluations show consistent strengths, with average scores exceeding the set benchmarks in operating equipment (4.08) and effective communication skills (4.36). Problem-solving abilities also showed marked success with scores of 3.83 and 4.6 in respective evaluations.

The program's effectiveness is indicated by outstanding pass rates on the ARRT examination (99%) and job placement rates (95%), both well above established benchmarks. Student completion rates increased from the previous cohort (80% to 82%), and graduate feedback reflected confidence in their preparedness for entry-level positions with an average satisfaction score of 4.9. Employers echoed this sentiment, with an average score of 3.87 regarding graduate preparedness.

#### Weaknesses:

The assessment data for SLO 1.1 and SLO 4.2 indicates strong overall student performance, with the Class of 2022 averaging 4.18 and 4.86, respectively. However, the Class of 2023 showed a slight decrease in SLO 1.1 to 4.08 and a drop in SLO 4.2 to 4.42. These results highlight areas for improvement, particularly in diagnostic procedures and professional behaviors. Faculty are committed to enhancing support and strategies to address these weaknesses moving forward.

## IV. Changes influenced by assessment results

1. Based on the previous assessment report Action Plan(s) identified in Section I above, please discuss how effective any changes were in improving student learning.

**SLO 1.1 - Students will perform diagnostic radiographic procedures.**

**New Assessment Tool** - RAD 150 - Radiographic Positioning Simulation Exercises (Upper Extremities, Lower Extremities, and Spinal Column)

*For the Class of 2023, students achieved an exceptional average score of 97.7%, reflecting their strong understanding and application of radiographic positioning techniques for the upper and lower extremities, as well as the spinal column. This impressive performance highlights not only the students' mastery of critical competencies but also the effectiveness of the simulation exercises as a teaching tool.*

**SLO 1.2 - Students will demonstrate the ability to perform basic patient care assessment skills.**

**New Assessment Tool** - RAD 222 Patient Assessment Skills Check-Out Form: Vital Signs

*Achieving an impressive average score of 90 with a 100% success rate among all 22 participants demonstrates that students have successfully mastered essential skills in vital signs assessment. This exceptional performance reflects the effectiveness of the instructional methods employed by Mr. Skufis and underscores the students' dedication to their education.*

**SLO 4.1 - Students will recognize the ethical and medical issues in patient care.**

**New Assessment Tool** - RAD 222 ARRT Code of Ethics Assignment

*With an average score of 38.91 out of 40 and 19 out of 23 students achieving perfect scores, the assessment highlights the students' strong understanding of professional standards and ethical considerations in the field of radiography. We believe this new assessment method has effectively prepared students to recognize and navigate ethical dilemmas, reinforcing the program's commitment to cultivating competent healthcare professionals.*

**SLO 4.2 - Students will exhibit professional behaviors in the clinical setting.**

**New Assessment Tool** - Radiography Student Professional Skills Evaluation: 12<sup>th</sup> statement "The student uses professional judgment and shows respect for organizational policies and norms."

The new assessment tool for evaluating professional behaviors in the Radiography program has proven highly effective for the Class of 2023. With an impressive average score of 3.96 out of 4, the results indicate that the majority of the students exhibited exemplary professionalism in clinical settings. This positive data underscores the effectiveness of the assessment tool in preparing students to navigate the professional landscape of radiography with integrity and professionalism.

2. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses. If students met all expectations, describe your plan for continuous improvement.

For the Class of 2023, all benchmarks for each Student Learning Outcome (SLO) have been successfully met. However, as mentioned previously, there were slight decreases in the average scores for certain learning outcomes. Faculty members will continue to monitor these metrics closely and review instructional methods to identify strategies for improvement and enhance overall student performance.

**Plans for Continuous Improvement -**

In our ongoing commitment to enhancing educational outcomes, the faculty has proposed two updates aimed at elevating both student competency and program effectiveness.

First, the benchmark for Student Learning Outcome 1.1, which assesses students' ability to perform diagnostic radiographic procedures, will be adjusted. The required average score for the RAD 240 - Final Clinical Performance Evaluation will increase from  $\geq 3.5$  to  $\geq 4$  on a 1–5 scale. This revision underscores our dedication to ensuring that students not only meet but exceed the standards of clinical proficiency and confidence necessary for successful independent practice.

Additionally, to align with the evolving labor market, we are revising our program effectiveness measure regarding job placement rates. The five-year average requirement for graduates securing employment will now be set at a minimum of 75% within 6 months post-graduation, rather than 12 months. This proactive approach aims to better facilitate graduates' transition into the workforce while allowing for timely evaluation and feedback that will inform our continuous improvement efforts each year.

3. Identify any other intended changes that will be instituted based on results of this assessment activity. Describe changes and give rationale for change. (Check all that apply).

a. ☒ Outcomes/assessments from Program Assessment Planning or Program Proposal form:

b. ☐ Program Curriculum:

☐ Course sequencing

☐ Course deletion

☐ Course addition

☐ Changes to existing program courses (specify):

☐ Other (specify):

c. ☐ Other (specify):

4. What is the timeline for implementing these actions?

These changes will be implemented for the Class of 2024 annual assessment data.

## V. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools were effective in documenting the success of the students as they progress through the program.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

## Submitted by:

Name: William Nelson Digitally signed by William Nelson, MA, RT(R)  
Date: 2025.02.14  
08:18:32 -05'00' Date: 2/14/2025  
Print/Signature

Department Chair: Kristina Sprague Digitally signed by Kristina Sprague  
Date: 2025.02.24  
11:09:20 -05'00' Date: \_\_\_\_\_  
Print/Signature

Dean: Shari Lambert Digitally signed by Shari Lee Lambert, DNP, RN  
Date: 2025.03.10 12:28:08 -04'00' Date: \_\_\_\_\_  
Print/Signature

**Please return completed form to the Office of Curriculum & Assessment, SC 257.**

Assessment Committee Chair: Jessica Hale Date: \_\_\_\_\_

**PROGRAM ASSESSMENT REPORT**

<b>Program Code: APRAD</b>	<b>Name: Radiography Program</b>	
<b>Division: Health Science</b>	<b>Department: Allied Health Department</b>	
<b>Award</b> <input type="checkbox"/> A.A. <input type="checkbox"/> A.S. <input checked="" type="checkbox"/> A.A.S.		
<input type="checkbox"/> Cert. <input type="checkbox"/> Adv. Cert. <input type="checkbox"/> Post-Assoc. Cert. <input type="checkbox"/> Cert. of Completion		

**I. Review previous assessment reports submitted for this program and provide the following information.**

1. Was this program previously assessed and if so, when?

The Radiography Program annual assessment for the Class of 2021 was submitted in the 2023 winter semester.

2. Briefly describe the results of previous assessment report(s).

The format for the annual assessment report was modified from previous years because of updated accreditation requirements from the Joint Review Committee on Education in Radiologic Technology. For the class of 2021, faculty continued to use the format adopted to assess a cohort over a two-year period while they were in the program.

The areas of strength associated in students' achievement of the learning outcomes included the following:

1. In SLO 1.1, students will perform diagnostic radiographic procedures, and the average score increased from 3.9 to 5 for the RAD 240 Final Clinical Performance Evaluation: Competency Maintenance. This standard assesses the student's ability to perform procedures they had previously mastered during their two years of training.
2. The 5-year first-attempt pass rate for the ARRT Radiography certification exam was 98% for this report. Unfortunately, one student from the Class of 2021 did not pass on her first attempt but did pass on her second attempt.
3. The job placement rate increased from 91% for the Class of 2020 to 95% for the Class of 2021.
4. Senior students indicated that the program adequately prepared them for entry-level positions. The average score for this question on the exit survey increased from 4.6 for the Class of 2020 to 4.9 for the Class of 2021.

3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

In response to one student in the Class of 2021 not passing the ARRT certification exam on the first attempt, faculty pledged to provide additional support for students during the exam-prep phase of the program. This would include targeted review sessions during the final two semesters of the program.

**II. Background Information**

1. Indicate the semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2020, 2021	2021, 2022	2020, 2021, 2022

2. Assessment tool(s) used (check all that apply):

- ☐ Portfolio
- ☐ Standardized test
- ☒ Other external certification/licensure exam (please describe): ARRT Certification Exam
- ☒ Graduate Survey
- ☒ Employer Survey
- ☐ Advisory Committee Survey
- ☐ Transfer follow-up
- ☐ Externally evaluated performance or exhibit
- ☒ Externally evaluation of job performance (internship, co-op, placement, other)
- ☐ Capstone experience (please describe):
- ☒ Other (please describe): Embedded Assessments

3. Have any of these tools been used before?

- ☒ Yes (if yes, identify the tool below and describe any changes made since it was last administered)
- ☐ No

Changes:

4. Indicate the number of students assessed/total number of students enrolled in the course(s)/program.

Thirty-two (32) students enrolled in the spring of 2020

5. Describe how you selected students for the assessment.

- a. Describe your sampling method.
- b. Describe the population assessed (e.g. students in capstone course, graduating students, alumni).

A. Radiography students initially enrolled in the spring of 2020 – **Class of 2022**

B. Semesters used for assessment:

**1<sup>st</sup> Year:** Spring/Summer 2020, Fall 2020, Winter 2021, Spring/Summer 2021

**2<sup>nd</sup> Year:** Fall 2021, Winter 2022, Spring 2022

### III. Results

- 1. State every outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program. *Add more lines as needed.*

<b>Goal 1. Students will be clinically competent</b>
1.1 Students will perform diagnostic radiographic procedures.
1.2 Students will demonstrate the ability to perform basic patient care assessment skills.
<b>Goal 2: Students will critically think and effectively solve problems.</b>
2.1 Students will calculate the correct exposure factors.
2.2 Students will solve problems in the clinical setting.
<b>Goal 3 Students will communicate effectively both orally and in writing.</b>
3.1 Students will use effective oral communication skills in the clinical setting.
3.2 Students will practice writing skills.
<b>Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.</b>
4.1 Graduates will value the principles of lifelong learning.
4.2 Students will recognize the ethical and medical issues in patient care.
4.3 Students will exhibit professional behaviors in the clinical setting.
<b>Goal 5: Program Effectiveness Measures:</b>
5.1 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.
5.2 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12

months of graduation.
5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

2. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected (as a separate document).*** Add more lines as needed.

For the 2022 cohort, students performed above the benchmark in their clinical rotations, demonstrating the ability to perform radiographic procedures, basic patient care assessment, operate radiographic equipment, calculate exposure factors, and communicate orally.

3. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment (as a separate document).*** Add more lines as needed.

The standard of success varied for each tool (Please review the Annual Assessment Report attached).

The following is a summary of the standards of success and student performance:

1. Standard of success for simulation exercises:

- Students will score 90% or higher. RAD 150 Radiographic Positioning Simulations Exercise (Spinal Column) – **average score 98%**

2. Standard of success for final clinical performance evaluations:

- Operating Radiographic Equipment (1.1 RAD 120): Students will score an average of  $\geq 4$  (1-5 point scale). All benchmarks were met by the cohort for each evaluation - **average score 4.18**
- Solving Problems in the Clinical Setting (2.2 RAD Student Prof. Skills Evaluation) Students will score an average of  $\geq 3$  (1-4 point scale). **average score 3.77** – ( 2.2 RAD 225) Students will score an average of  $\geq 4$  (1-5 point scale) **average score 4.55**
- Using Effective Oral Communication Skills (3.1 RAD Student Prof. Skills Evaluation) Students will score an average of  $\geq 3$  (1-4 point scale) – **average score 3.91** (3.1 RAD 120) Students will score an average of  $\geq 4$  (1-5 point scale) – **average score 4.27**
- Exhibiting Professional Behaviors in the Clinical Setting (4.2 RAD150) Students will score an average of  $\geq 4$  (1-5 point scale) **average score 4.86**

3. Standard of success for simulated skill evaluations.

- Performing Basic Patient Care Skills (1.2 RAD 222 Skills Check Out for Venipuncture – Students will score 90% or higher. Average score  $\geq 17$  for 20 points ) **average score 20**
- Performing Basic Patient Care Skills (1.2 RAD 101 Patient Transfer Competency – average score  $\geq 27$  for 33 points ) **average score 31.6**

4. Standard of success for demonstrating writing skills: Students will score an average of  $\geq 80$  points (100 point rubric). All benchmarks were met by the cohort for each research paper

- Contrast Study Paper (3.2 RAD 120) **average score 97**
- Advanced Level Training Research Paper (3.2 RAD 225) **average score 98**

5. Standard of success for calculating exposure factors.

- Lab Assignment Effect of Distance on Density Maintenance Formula (2.1 RAD 124 – average score  $\geq 20$  for 26 points) **average score 24**
- Radiographic Technique Manual Project (2.1 RAD 217 – average score of 90% or higher 100 points) **average percentage 97.6**

6. Standard of success for students recognizing ethical and medical issues in patient care.

- Homework Essay Questions on Ethical and Medical Issues in Patient Care (4.1 RAD 103 – average score  $\geq 32$  for 40 points) **average score 40**
- Writing assignment – Patient/Coworker Communication and Cultural Diversity (4.1 RAD 110 – average score 80 points or higher using 100 point rubric) **average score 93**

8. Standard of success – Program Effectiveness Measures

- The 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt. The 5-year average for this report is **99%**.
- The 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation. The 5-year average for this report is **96%**.
- Students admitted to the program will successfully complete the program within the 2-year sequence. The established benchmark is 70% of the students admitted and enrolled in the program

will complete the program within two years. The 5-year average for this report is 75%. The benchmark was met for this cohort (Class of 2022) – **completion rate 80%**.

- Graduates will indicate that the program adequately prepared them for entry-level positions. Using a graduate exit survey question, students will confirm with an average score of  $\geq 3$  on a 5-point scale. The average score remained consistent from the previous year at **4.9**.
- Employers will indicate that the program graduates are adequately prepared for entry-level positions. Using a Radiography Student Professional Skills Evaluation sent to clinical managers – average score of  $\geq 3$  from a 4-point scale. The average score for this report is **3.82**.

4. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

#### Strengths:

1. Radiography students are continuing to improve their understanding of radiographic concepts and skills as they advance through the program.
2. For SLO 2.1 – Students will calculate the correct exposure factors – RAD 217 Radiographic Technique Manual Project, and the average score increased from 96% to 97.6%
3. For SLO 4.1 – RAD 110 writing assignment for Patient/Co-Worker Communication and Cultural Diversity the average score increased from 85 to 93.
4. The 5-year ARRT first-attempt pass rate for the ARRT Radiography certification exam increased from 98% to 99%!
5. The job placement rate increased from 95% for the Class of 2021 to 100% for the Class of 2022.
6. Senior students indicated that the program adequately prepared them for an entry-level position. The average score for this question on the exit survey remained consistent for the Class of 2022 at 4.9.

#### Weaknesses:

The program completion rate dropped from 92% to 80%

### IV. Changes influenced by assessment results

1. Based on the previous assessment report Action Plan(s) identified in Section I above, please discuss how effective any changes were in improving student learning.

Following the Class of 2021's experience of having one student fail the ARRT certification exam, the radiography program faculty implemented an action plan focused on enhancing exam preparation. This included offering targeted review sessions and advanced mock registry exams. As a result of these changes, the Class of 2022 achieved a remarkable 100% pass rate on the ARRT certification exam, demonstrating the effectiveness of the additional support provided. The faculty remains committed to maintaining this level of excellence for future cohorts.

2. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses. If students met all expectations, describe your plan for continuous improvement.

All benchmarks were met for each SLO, but faculty will be implementing the following changes to the assessment process:

#### **SLO 1.1 - Students will perform diagnostic radiographic procedures.**

**Initial Assessment Tool** – RAD 150 - Radiographic Positioning Simulation Exercises (Spinal Column)

**New Assessment Tool** - RAD 150 - Radiographic Positioning Simulation Exercises (Upper Extremities, Lower Extremities, and Spinal Column)

#### **SLO 1.2 - Students will demonstrate the ability to perform basic patient care assessment skills.**

**Initial Assessment Tool** – RAD 222 Patient Assessment Skills Check-Out Form: Venipuncture

**New Assessment Tool** - RAD 222 Patient Assessment Skills Check-Out Form: Vital Signs



**SLO 4.1 - Students will recognize the ethical and medical issues in patient care.**

**Initial Assessment Tool** – RAD 103 – Unit 4 Homework Essay Questions on Ethical and Medical Issues in Patient Care

**New Assessment Tool** - RAD 222 ARRT Code of Ethics Assignment

**SLO 4.2 - Students will exhibit professional behaviors in the clinical setting.**

**Initial Assessment Tool** – Radiography Student Professional Skills Evaluation: 2nd statement

“The student communicates with fellow students, staff, managers, and physicians in a manner you would expect /require of an entry-level radiographer.”

**New Assessment Tool** - Radiography Student Professional Skills Evaluation: 12th statement “The student uses professional judgment and shows respect for organizational policies and norms.”

All changes will be implemented for the Class of 2023 assessment cycle once discussed with the program's advisory board

3. Identify any other intended changes that will be instituted based on results of this assessment activity. Describe changes and give rationale for change. (Check all that apply).

a. ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:

b. ☐ Program Curriculum:

☐ Course sequencing

☐ Course deletion

☐ Course addition

☐ Changes to existing program courses (specify):

☐ Other (specify):

c. ☒ Other (specify):

4. What is the timeline for implementing these actions?

The Radiography Program Assessment Plan will be updated and submitted for review.

**V. Future plans**

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools were effective in documenting the success of the students as they progress through the program.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

**Submitted by:**

Name: **William Nelson** Digitally signed by William Nelson  
Date: 2024.02.19 14:02:42 -05'00' Date: \_\_\_\_\_  
Print/Signature

Department Chair: **Kristina Sprague** Digitally signed by Kristina Sprague  
Date: 2024.02.26 14:06:14 -05'00' Date: \_\_\_\_\_  
Print/Signature

Dean: **Shari Lee Lambert, DNP, RN** Digitally signed by Shari Lee Lambert, DNP, RN  
Date: 2024.02.27 12:27:52 -05'00' Date: \_\_\_\_\_  
Print/Signature

**Please return completed form to the Office of Curriculum & Assessment, SC 257.**

Assessment Committee Chair: **Jessica Hale** Digitally signed by Jessica Hale  
Date: 2025.01.13 20:25:44 -05'00' Date: \_\_\_\_\_  
Print/Signature

**PROGRAM ASSESSMENT REPORT**

<b>Program Code: APRAD</b>	<b>Name: Radiography Program</b>		
<b>Division: Health Science</b>	<b>Department: Allied Health Department</b>		
<b>Award</b>	<input type="checkbox"/> A.A.	<input type="checkbox"/> A.S	<input checked="" type="checkbox"/> A.A.S.
	<input type="checkbox"/> Cert.	<input type="checkbox"/> Adv. Cert.	<input type="checkbox"/> Post-Assoc. Cert. <input type="checkbox"/> Cert. of Completion

**I. Review previous assessment reports submitted for this program and provide the following information.**

1. Was this program previously assessed and if so, when?

The Radiography Program annual assessment for the Class of 2020 was submitted in the 2022 winter semester.

2. Briefly describe the results of previous assessment report(s).

The format for the annual assessment report was changed from previous years due to updated accreditation requirements from the Joint Review Committee on Education in Radiologic Technology. Instead of assessing an academic year, we changed the format to assess a cohort over two years they are in the program. This will give us a more accurate evaluation of our academic and clinical curriculum and provide valuable feedback for any changes that need to be made.

The areas of strength associated in students' achievement of the learning outcomes included the following:

1. An increase in the 5-year ARRT certification exam first attempt pass rate from 98% to 99%
2. The ARRT certification exam pass rate for the Class of 2020 was 100%.
3. Students indicated that the program adequately prepared them for an entry-level position in the field of radiography.

3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

The benchmark was not met for standard 4.1 – Graduates will value the principles of lifelong learning. The survey results from 2018 to 2020 reveal persistent challenges regarding graduates' intentions to pursue further education, with low average scores indicating limited interest influenced by immediate work, financial constraints, and personal obligations. In response, faculty have decided to remove the question about continued education plans from the Graduate Exit Survey to refine the assessment plan, focusing on more meaningful measures that better align with professional development and promote a culture of ongoing education.

**II. Background Information**

1. Indicate the semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2019, 2020	2020, 2021	2019, 2020, 2021

2. Assessment tool(s) used (check all that apply):

- ☐ Portfolio
- ☐ Standardized test
- ☒ Other external certification/licensure exam (please describe): ARRT Certification Exam
- ☒ Graduate Survey
- ☒ Employer Survey
- ☐ Advisory Committee Survey
- ☐ Transfer follow-up
- ☐ Externally evaluated performance or exhibit
- ☒ Externally evaluation of job performance (internship, co-op, placement, other)
- ☐ Capstone experience (please describe):
- ☒ Other (please describe): Embedded Assessments

3. Have any of these tools been used before?

- ☒ Yes (if yes, identify the tool below and describe any changes made since it was last administered)
- ☐ No

Changes:

*No changes were made for this report.*

4. Indicate the number of students assessed/total number of students enrolled in the course(s)/program.

Thirty-two (32) students enrolled in the spring of 2019

5. Describe how you selected students for the assessment.

- a. Describe your sampling method.
- b. Describe the population assessed (e.g. students in capstone course, graduating students, alumni).

A. Radiography students initially enrolled in the spring of 2019 – **Class of 2021**

B. Semesters used for assessment:

**1<sup>st</sup> Year:** Spring/Summer 2019, Fall 2019, Winter 2020, Spring/Summer 2020

**2<sup>nd</sup> Year:** Fall 2020, Winter 2021, Spring 2021

### III. Results

1. State every outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program. *Add more lines as needed.*

<b>Goal 1. Students will be clinically competent</b>
1.1 Students will perform diagnostic radiographic procedures.
1.2 Students will demonstrate the ability to perform basic patient care assessment skills.
<b>Goal 2: Students will critically think and effectively solve problems.</b>
2.1 Students will calculate the correct exposure factors.
2.2 Students will solve problems in the clinical setting.
<b>Goal 3 Students will communicate effectively both orally and in writing.</b>
3.1 Students will use effective oral communication skills in the clinical setting.
3.2 Students will practice writing skills.
<b>Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.</b>
4.1 Graduates will value the principles of lifelong learning.
4.2 Students will recognize the ethical and medical issues in patient care.
4.3 Students will exhibit professional behaviors in the clinical setting.
<b>Goal 5: Program Effectiveness Measures:</b>
5.1 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.
5.2 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12

months of graduation.
5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

2. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected (as a separate document).*** Add more lines as needed.

For the 2021 cohort, students performed above the benchmark in their clinical rotations, demonstrating the ability to perform radiographic procedures, basic patient care assessment, operating radiographic equipment, calculate exposure factors, and communicating orally.

3. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment (as a separate document).*** Add more lines as needed.

The standard of success varied for each tool (Please review the Annual Assessment Report attached).

The following is a summary of the standards of success and student performance:

1. Standard of success for simulation exercises: Students will score 90% or higher. Unfortunately, due to COVID restrictions, students were not evaluated due to the campus being closed.
2. Standard of success for final clinical performance evaluations: Students will score an average of  $\geq 3$  (1-4 point scale). All benchmarks were met by the cohort for each evaluation:
  - Operating Radiographic Equipment (1.1 RAD 120) Unfortunately, during the 2020 winter semester, this evaluation could not be performed because students were not allowed in the clinical setting.
  - Using Effective Oral Communication Skills (3.1 RAD Student Prof. Skills Evaluation) average score 3.94 – (3.1 RAD 120) Unfortunately, during the 2020 winter semester, this evaluation could not be performed because students were not allowed in the clinical setting.
  - Solving Problems in The Clinical Setting (2.2 RAD Student Prof. Skills Evaluation) average score 3.8 – ( 2.2 RAD 225) average score 4.73
  - Exhibiting Professional Behaviors in the Clinical Setting (4.2 RAD150) average score 3.9
3. Standard of success for simulated skill evaluations.
  - Performing Basic Patient Care Skills (1.2 RAD 222 Skills Check Out for Venipuncture – Students will score 90% or higher. Average score  $\geq 17$  for 20 points ) average score 20
  - Performing Basic Patient Care Skills (1.2 RAD 101 Patient Transfer Competency – average score  $\geq 32$  for 39 points ) average score 38
4. Standard of success for demonstrating writing skills: Students will score an average of  $\geq 80$  points (100 point rubric). All benchmarks were met by the cohort for each research paper
  - Contrast Study Paper (3.2 RAD 120) average score 97
  - Advanced Level Training Research Paper (3.2 RAD 225) average score 97
5. Standard of success for calculating exposure factors.
  - Lab Assignment Effect of Distance on Density Maintenance Formula (2.1 RAD 124 – average score  $\geq 20$  for 26 points) average score 23.9
  - Radiographic Technique Manual Project (2.1 RAD 217 – average score of 90% or higher 100 points) average percentage 96%
6. Standard of success for students recognizing ethical and medical issues in patient care.
  - Homework Essay Questions on Ethical and Medical Issues in Patient Care (4.1 RAD 103 – average score  $\geq 32$  for 40 points) average score 40
  - Writing assignment – Patient/Coworker Communication and Cultural Diversity (4.1 RAD 110 – average score 80 points or higher using 100 point rubric) average score 85
7. Standard of success – Program Effectiveness Measures
  - The 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt. The 5-year average for this report is 98%.
  - The 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation. The 5-year average for this report is 96%.
  - Students admitted to the program will successfully complete the program within the 2-year sequence. The established benchmark is 70% of the students admitted and enrolled in the program will complete the program within two years. The 5-year average for this report is 75%. The benchmark was met for this cohort (Class of 2021) – a completion rate 92%.

- Graduates will indicate that the program adequately prepared them for entry-level positions. Using a graduate exit survey question, students will confirm with an average score of  $\geq 3$  from a 5 point scale. The average score for this report increased from 4.6 to 4.9.
  - Employers will indicate that the program graduates are adequately prepared for entry-level positions. Using a Radiography Student Professional Skills Evaluation sent to clinical managers – average score of  $\geq 3$  from a 4-point scale – the average score for this cohort was 3.94.
4. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

#### Strengths:

1. Radiography students continue to master radiographic concepts and skills as they progress through the program.
2. For SLO 1.1 – Students will perform diagnostic radiographic procedures, and the average score increased from 3.9 to 5 for the RAD 240 Final Clinical Performance Evaluation: Competency Maintenance. This standard evaluates the student's ability to perform procedures previously mastered during their two years of training.
3. The 5-year ARRT first attempt pass rate for the ARRT Radiography certification exam was 98% for this report. Unfortunately, one of the students from the Class of 2021 did not pass on her first attempt but did pass on her second attempt.
4. The job placement rate increased from 91% for the Class of 2020 to 95% for the Class of 2021.
5. Senior students indicated that the program adequately prepared them for an entry-level position. The average score for this question on the exit survey increased from 4.6 for the Class of 2020 to 4.9 for the Class of 2021.

#### Weaknesses:

The program effectiveness measures reflect a commendable level of success across various key performance indicators. Over the past five years, the first-attempt pass rate for the ARRT credentialing examination consistently surpassed the benchmark of 75%, achieving an impressive five-year average of 98%. While the Class of 2021 experienced a minor setback due to **one** student's initial failure, faculty recognized this as a valuable opportunity for growth, as the student ultimately passed the exam one month later with the help of additional support.

### IV. Changes influenced by assessment results

1. Based on the previous assessment report Action Plan(s) identified in Section I above, please discuss how effective any changes were in improving student learning.

As stated previously, for SLO 4.1, the survey question regarding life-long learning was removed from the assessment process. The removal of the Graduate Exit Survey question allowed the faculty to focus on more relevant and meaningful assessment metrics that directly reflect graduates' professional development. By eliminating potentially misleading responses, the faculty can concentrate on gathering actionable feedback that supports ongoing education and aligns with students' actual experiences and values.

2. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses. If students met all expectations, describe your plan for continuous improvement.

The radiography program faculty are dedicated to achieving excellence in education and are committed to continuous improvement aimed at reaching a 100% pass rate for the ARRT certification exam for every cohort. While the Class of 2021 faced the challenge of one student initially failing the exam, this experience has motivated us to provide additional support, including targeted review sessions and advanced mock registry exams.

3. Identify any other intended changes that will be instituted based on results of this assessment activity. Describe changes and give rationale for change. (Check all that apply).

a. ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:

b. ☐ Program Curriculum:

☐ Course sequencing

☐ Course deletion

☐ Course addition

☐ Changes to existing program courses (specify):

☐ Other (specify):

c. ☒ Other (specify):

4. What is the timeline for implementing these actions?

These actions will occur during the last two semesters of the program.

## V. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools were effective in documenting the success of the students as they progress through the program.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

## Submitted by:

Name: *William Nelson* William Nelson  
Print/Signature

Digitally signed by William Nelson  
Date: 2023.05.01 07:41:27 -04'00'

Date: \_\_\_\_\_

Department Chair: *Kristina Sprague* Kristina Sprague  
Print/Signature

Digitally signed by Kristina  
Sprague  
Date: 2023.05.02 09:17:33 -04'00'

Date: \_\_\_\_\_

Dean: *Shari Lee Lambert, DNP, RN* Shari Lee Lambert, DNP, RN  
Print/Signature

Digitally signed by Shari Lee  
Lambert, DNP, RN  
Date: 2023.05.03 11:13:50 -04'00'

Date: \_\_\_\_\_

**Please return completed form to the Office of Curriculum & Assessment, SC 257.**

Assessment Committee Chair: *Jessica Hale* Jessica Hale  
Print/Signature

*Jessica Hale*

Date: 12/15/2023

Reviewed by C&A Committees 8/3/23

**PROGRAM ASSESSMENT REPORT**

<b>Program Code: APRAD</b>	<b>Name: Radiography Program</b>	
<b>Division: Health Science</b>	<b>Department: Allied Health Department</b>	
<b>Award</b>	<input type="checkbox"/> A.A. <input type="checkbox"/> A.S. <input checked="" type="checkbox"/> A.A.S. <input type="checkbox"/> Cert. <input type="checkbox"/> Adv. Cert. <input type="checkbox"/> Post-Assoc. Cert. <input type="checkbox"/> Cert. of Completion	

**I. Review previous assessment reports submitted for this program and provide the following information.**

1. Was this program previously assessed and if so, when?

The assessment was administered during the fall 2017, winter, and spring 2018.

2. Briefly describe the results of previous assessment report(s).

Program effectiveness data indicated a high pass rate for the national certification exam. The 5-year first-attempt pass rate for the ARRT Radiography certification exam was 98%. The percent passing for the Class of 2018 was 100%. The 5-year completion rate remained and the job placement rate remained consistent. Employers indicated that the graduates were adequately prepared for entry-level positions. The average score increased from 4.82 to 5.

3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

There were no changes indicated due to students performing above expectations on each learning outcome and program effectiveness benchmarks were met.

**II. Background Information**

1. Indicate the semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2018, 2019	2019, 2020	2018, 2019, 2020

2. Assessment tool(s) used (check all that apply):

- ☐ Portfolio
- ☐ Standardized test
- ☐ Other external certification/licensure exam (please describe): \_\_\_\_\_
- ☒ Graduate Survey
- ☒ Employer Survey
- ☐ Advisory Committee Survey
- ☐ Transfer follow-up
- ☐ Externally evaluated performance or exhibit
- ☒ Externally evaluation of job performance (internship, co-op, placement, other)
- ☐ Capstone experience (please describe): \_\_\_\_\_
- ☒ Other (please describe): Embedded Assessments

3. Have any of these tools been used before?

- ☒ Yes (if yes, identify the tool below and describe any changes made since it was last administered)  
☐ No

Changes:

No changes were for this report.

4. Indicate the number of students assessed/total number of students enrolled in the course(s)/program.

Thirty-two (32) students enrolled in the spring of 2018

5. Describe how you selected students for the assessment.

- Describe your sampling method.
- Describe the population assessed (e.g. students in a capstone course, graduating students, alumni).

A. Radiography students initially enrolled in the spring of 2018 – **Class of 2020**

B. Semesters used for assessment:

**1<sup>st</sup> Year:** Spring/Summer 2018, Fall 2018, Winter 2019, Spring/Summer 2019

**2<sup>nd</sup> Year:** Fall 2019, Winter 2020, Spring 2020

### III. Results

- State every outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program. *Add more lines as needed.*

<b>Goal 1. Students will be clinically competent</b>
1.1 Students will perform diagnostic radiographic procedures.
1.2 Students will correctly operate radiographic equipment.
1.3 Students will demonstrate the ability to perform basic patient care assessment skills.
<b>Goal 2: Students will critically think and effectively solve problems.</b>
2.1 Students will calculate the correct exposure factors.
2.2 Students will solve problems in the clinical setting.
<b>Goal 3 Students will communicate effectively both orally and in writing.</b>
3.1 Students will use effective oral communication skills in the clinical setting.
3.2 Students will practice writing skills.
<b>Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.</b>
4.1 Graduates will value the principles of lifelong learning.
4.2 Students will recognize the ethical and medical issues in patient care.
4.3 Students will exhibit professional behaviors in the clinical setting.
<b>Goal 5: Program Effectiveness Measures:</b>
5.1 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.
5.2 The 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation.
5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.



2. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected (as a separate document).*** Add more lines as needed.

Students performed above the benchmark in their clinical rotations, demonstrating the ability to perform radiographic procedures, basic patient care assessment, operating radiographic equipment, calculating exposure factors and communicating orally.

3. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment (as a separate document).*** Add more lines as needed.

The standard of success varied for each tool (Please review the Annual Assessment Report attached).

The following is a summary of the standards of success and student performance:

1. Standard of success for simulation exercises: Students will score 90% or higher. The average score for the cohort was 97%.
2. Standard of success for final clinical performance evaluations: Students will score an average of  $\geq 3$  (1-4 point scale). All benchmarks were met by the cohort for each evaluation:
  - Operating Radiographic Equipment (1.2 RAD 120) average score 3.6
  - Using Effective Oral Communication Skills (2.1 RAD Student Prof. Skills Evaluation) average score 3.8 – (3.1 RAD 120) average score 3.7
  - Solving Problems in The Clinical Setting (3.2 RAD Student Prof. Skills Evaluation) average score 3.8 – ( 2.2 RAD 225) average score 3.6
  - Exhibiting Professional Behaviors in the Clinical Setting (4.3 RAD150) average score 3.9
3. Standard of success for simulated skill evaluations.
  - Performing Basic Patient Care Skills (1.3 RAD 222 Skills Check Out for Venipuncture – Students will score 90% or higher. Average score  $\geq 17$  for 20 points ) average score 20
  - Performing Basic Patient Care Skills (1.3 RAD 101 Patient Transfer Competency – average score  $\geq 32$  for 39 points ) average score 37
4. Standard of success for demonstrating writing skills: Students will score an average of  $\geq 80$  points (100 point rubric). All benchmarks were met by the cohort for each research paper
  - Contrast Study Paper (3.2 RAD 120) average score 97
  - Advanced Level Training Research Paper (3.2 RAD 225) average score 96
5. Standard of success for calculating exposure factors.
  - Lab Assignment Effect of Distance on Density Maintenance Formula (2.1 RAD 124 – average score  $\geq 20$  for 26 points) average score 22.3
  - Radiographic Technique Manual Project (2.1 RAD 217 – average score of 90% or higher 100 points) average percentage 97%
6. Standard of success for students valuing the principles of lifelong learning. Using a graduate exit survey question “Do you have plans to continue your education within the next 12 months?” an average score  $\geq 3$  using a 4 point scale would indicate the cohort values this principle. The benchmark was not met with an average score of 2.5 for this cohort.
7. Standard of success for students recognizing ethical and medical issues in patient care.
  - Homework Essay Questions on Ethical and Medical Issues in Patient Care (4.2 RAD 103 – average score  $\geq 32$  for 40 points) average score 39
  - Writing assignment – Patient/Coworker Communication and Cultural Diversity (4.2 RAD 110 – average score 80 points or higher using 100 point rubric) average score 94
8. Standard of success – Program Effectiveness Measures
  - The 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt. The 5-year average for this report is 99%.
  - The 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation. The 5-year average for this report is 97%.
  - Students admitted to the program will successfully complete the program within the 2-year sequence. The established benchmark is 70% of the students admitted and enrolled in the program will complete the program within two years. The 5-year average for this report is 72%. The benchmark was not met for this cohort (Class of 2020) – completion rate 69%.
  - Graduates will indicate that the program adequately prepared them for entry-level positions. Using a graduate exit survey question, students will confirm with an average score of  $\geq 3$  from a 5 point scale. The average score for this report was 4.6.

- Employers will indicate that the program graduates are adequately prepared for entry-level positions. Using a Radiography Student Professional Skills Evaluation sent to clinical managers – average score of  $\geq 3$  from a 4 point scale. The average score for this report was 3.82.
4. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

**Strengths:**

1. Radiography students continue to master the radiographic concepts and skills as they progress through the program.
2. The 5-year ARRT first-attempt pass rate for the ARRT Radiography certification exam increased from 98% to 99%. The percent passing for the Class of 2020 was 100%. We would like to see our 5-year first-attempt pass rate increase to 100% for the next annual report.
3. The 5-year job placement rate remains consistent. The demand for professionally trained diagnostic imaging technologists continues to increase and our students are being hired before they are finished with the program.
4. Students indicated that the program adequately prepared them for an entry-level position.

**Weaknesses:**

The completion rate for the class of 2020 fell below the established benchmark of 70%.

#### **IV. Changes influenced by assessment results**

1. Based on the previous assessment report Action Plan(s) identified in Section I above, please discuss how effective any changes were in improving student learning.

No changes were indicated from the previous assessment report.

2. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses. If students met all expectations, describe your plan for continuous improvement.

The benchmark was not met for standard 4.1 – Graduates will value the principles of lifelong learning. Faculty have discussed the results of this survey and have determined that there are several factors that may deter a recent graduate from pursuing an additional degree or advanced training. This includes the open job market, departments willing to train new graduates in CT or MRI, financial constraints, and family obligations.

The survey results from 2018 to 2020 highlight an ongoing challenge with this assessment tool. In 2018, graduates reported a low average score of 2.4, indicating minimal intentions to pursue further education beyond their current training; this pattern persisted in 2019 with unchanged scores and a notable lack of interest in pursuing four-year degrees, despite an increased interest in Advanced Imaging. Although the Class of 2020 showed a slight improvement to an average of 2.5, the continued indecision regarding further education suggests that immediate work opportunities, financial constraints, and personal obligations significantly influence graduates' choices. In light of these findings, faculty discussions have led to the decision to remove the Graduate Exit Survey question regarding continued education plans, marking a strategic shift aimed at refining the program's assessment plan. This change focuses on more meaningful measures that align better with graduates' professional development while demonstrating a commitment to fostering a culture that values ongoing education without relying on potentially misleading survey responses.

The benchmark was not met for our Program Effectiveness Measure 3.0 – Program Retention Rate. The faculty has engaged in discussions to enhance the completion rate for future cohorts, recognizing that the pandemic significantly impacted the Class of 2020. Ms. Hammond emphasized the importance of ongoing student support and communication, which will involve gathering feedback from both students and clinical partners. To address mental health concerns, Mr. Nelson plans to reach out to campus student support services to ensure counseling resources are available for students who may experience anxiety related to their coursework and clinical placements, highlighting the need for students to feel supported as they navigate their academic challenges. In addition, Ms. Hammond will take proactive measures to maintain clinical competency among students by emphasizing its critical nature during upcoming clinical exit conferences, ensuring students understand its significance for their training. She has already reviewed competencies and evaluations with each student's former clinical instructors to identify areas for improvement and strengths to build upon. Furthermore, Ms. Hammond plans to raise awareness of competency maintenance at the next Advisory Board meeting and during visits with clinical affiliates, aiming to foster collaboration and support with clinical training partners to reinforce the importance of ongoing education and evaluation in clinical practice, ultimately creating an environment that prioritizes clinical excellence for both students and clinical affiliates.

3. Identify any other intended changes that will be instituted based on results of this assessment activity. Describe changes and give rationale for change. (Check all that apply).
- a. ☒ Outcomes/assessments from Program Assessment Planning or Program Proposal form:
  - b. ☐ Program Curriculum:
    - ☐ Course sequencing
    - ☐ Course deletion
    - ☐ Course addition
    - ☐ Changes to existing program courses (specify):
    - ☐ Other (specify):
  - c. ☒ Other (specify):

4. What is the timeline for implementing these actions?

Most of these changes have already been implemented in the later years of the current program assessment, and the assessment plan has been updated and submitted for review.

## V. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools were effective in documenting the success of the students as they progress through the program.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

Regarding SLO 4.1, faculty have decided to remove the Graduate Exit Survey question about graduates' plans for further education. Discussions revealed that factors such as immediate job opportunities and financial constraints heavily influence responses, obscuring the true value graduates may place on lifelong learning. This change will allow the program to focus on more relevant metrics of student success that align with our mission to cultivate professionalism.


**Submitted by:**

Name: William Nelson Digitally signed by William Nelson  
Date: 2021.12.17 14:14:35 -05'00' Date: \_\_\_\_\_  
Print/Signature

Department Chair: Kristina Sprague Digitally signed by Kristina Sprague  
Date: 2021.12.17 14:15:19 -05'00' Date: \_\_\_\_\_  
Print/Signature

Dean: Shari Lee Lambert, DNP, RN Digitally signed by Shari Lee Lambert, DNP, RN  
Date: 2022.04.07 17:24:44 -04'00' Date: \_\_\_\_\_  
Print/Signature

***Please return completed form to the Office of Curriculum & Assessment, SC 257.***

Assessment Committee Chair: Shawn Deron  Date: 11/12/2022  
Print/Signature

Reviewed by C&A Committees 8/4/22

PROGRAM ASSESSMENT REPORT

<b>Program Code:</b> APRAD	<b>Name:</b> Radiography Program	
<b>Division:</b> Health Science	<b>Department:</b> Allied Health Department	
<b>Award</b> <input type="checkbox"/> A.A. <input type="checkbox"/> A.S. <input checked="" type="checkbox"/> A.A.S.		
<input type="checkbox"/> Cert. <input type="checkbox"/> Adv. Cert. <input type="checkbox"/> Post-Assoc. Cert. <input type="checkbox"/> Cert. of Completion		

**I. Review previous assessment reports submitted for this program and provide the following information.**

1. Was this program previously assessed and if so, when?

The assessment was administered during the fall of 2017, winter and spring of 2018. The final report was submitted in January of 2020

2. Briefly describe the results of previous assessment report(s).

Program effectiveness data indicated a high five year average pass rate for the national certification exam (98%) and job placement rate (97%). Students indicated they were adequately prepared for entry-level positions in the field of radiography and employers indicated our graduates were adequately prepared for an entry-level position in their department.

3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

Based on a recommendation from our accrediting body, the faculty chose to use a radiographic positioning simulation exercise for student learning outcome 1.1. This exercise requires the student to demonstrate positioning of the entire spinal column (cervical, thoracic, lumbar, and sacrum/coccyx). For this assessment tool, the average score was 97%, which exceeded the benchmark.

**II. Background Information**

1. Indicate the semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2018	2019	2019

2. Assessment tool(s) used (check all that apply):

- ☐ Portfolio
- ☐ Standardized test
- ☐ Other external certification/licensure exam (please describe): \_\_\_\_\_
- ☒ Graduate Survey
- ☒ Employer Survey
- ☐ Advisory Committee Survey
- ☐ Transfer follow-up
- ☐ Externally evaluated performance or exhibit
- ☒ Externally evaluation of job performance (internship, co-op, placement, other)
- ☐ Capstone experience (please describe): \_\_\_\_\_
- ☒ Other (please describe): Embedded Assessments

3. Have any of these tools been used before?

- ☒ Yes (if yes, identify the tool below and describe any changes made since it was last administered)

☐ No

Changes:

4. Indicate the number of students assessed/total number of students enrolled in the course(s)/program.

All program students were evaluated (53)

5. Describe how you selected students for the assessment.

a. Describe your sampling method.

b. Describe the population assessed (e.g. students in capstone course, graduating students, alumni).

A. 1<sup>st</sup> and 2<sup>nd</sup> year radiography students. First year students entered the program in May of 2018 and Second year students entered the program in May of 2017.

B. Continuing (1<sup>st</sup> year) and graduating students (2<sup>nd</sup> year – Class of 2019).

### III. Results

1. State every outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program. *Add more lines as needed.*

<b>Goal 1. Students will be clinically competent</b>
1.1 Students will perform diagnostic radiographic procedures.
1.2 Students will correctly operate radiographic equipment.
1.3 Students will demonstrate the ability to perform basic patient care assessment skills.
<b>Goal 2: Students will communicate effectively both orally and in writing.</b>
2.1 Students will use effective oral communication skills in the clinical setting.
2.2 Students will practice writing skills.
<b>Goal 3: Students will critically think and effectively solve problems.</b>
3.1 Students will calculate correct exposure factors.
3.2 Students will solve problems in the clinical setting.
<b>Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.</b>
4.1 Graduates will value the principles of lifelong learning.
4.2 Students will recognize the ethical and medical issues in patient care.
4.3 Students will exhibit professional behaviors in the clinical setting.
<b>Goal 5: Program Effectiveness Measures:</b>
5.1 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.
5.2 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation.
5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

2. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. **Please attach a summary of the data collected (as a separate document).** Add more lines as needed.

**See attached 2018-19 Radiography Annual Assessment Report**

3. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. **Please attach the rubric/scoring guide used for the assessment (as a separate document).** Add more lines as needed.

**See attached 2018-19 Radiography Annual Assessment Report**

4. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

**Strengths:**

1. Radiography students are mastering the radiographic concepts and skills as they progress through the program.
2. The 5 year ARRT first attempt pass rate for the ARRT Radiography certification exam increased from 98% to 99%
3. The 5 year job placement rate increased from 97% to 98%.
4. Employers continue to indicate that our graduates are adequately prepared for entry level positions.

**Weaknesses:**

The completion rate continues to fluctuate and hover just above the benchmark.

**IV. Changes influenced by assessment results**

1. Based on the previous assessment report Action Plan(s) identified in Section I above, please discuss how effective any changes were in improving student learning.

For the RAD 150 radiographic positioning simulation exercises, students exceeded the established benchmark.

2. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses. If students met all expectations, describe your plan for continuous improvement.

Student expectations were met. The radiography program faculty will continue to review and update curriculum as need based on course guidelines from the American Society of Radiologic Technologists (ASRT) and American Registry of Radiologic Technologists (ARRT).

3. Identify any other intended changes that will be instituted based on results of this assessment activity. Describe changes and give rationale for change. (Check all that apply).

- a. ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:
- b. ☐ Program Curriculum:
- ☐ Course sequencing
  - ☐ Course deletion
  - ☐ Course addition
  - ☐ Changes to existing program courses (specify):
  - ☐ Other (specify):

c. ☐ Other (specify):

4. What is the timeline for implementing these actions?

**V. Future plans**

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools were effective in documenting the success of the students as they progress through the program.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

**Submitted by:**

Name: *[Signature]* Date: 1-21-21  
Print/Signature

Department Chair: *[Signature]* Date: 1/21/2021  
Print/Signature

Dean: *[Signature]* Date: 1/21/2021  
Print/Signature

Reviewed by C&A Committees 2/4/21

**Please return completed form to the Office of Curriculum & Assessment, SC 257.**



PROGRAM ASSESSMENT REPORT

Program Code: APRAD	Name: Radiography Program	
Division: Health Science	Department: Allied Health Department	
Award <input type="checkbox"/> A.A. <input type="checkbox"/> A.S. <input checked="" type="checkbox"/> A.A.S.		
<input type="checkbox"/> Cert. <input type="checkbox"/> Adv. Cert. <input type="checkbox"/> Post-Assoc. Cert. <input type="checkbox"/> Cert. of Completion		

I. Review previous assessment reports submitted for this program and provide the following information.

1. Was this program previously assessed and if so, when?

The assessment was administered during the fall of 2015, winter and spring of 2016. The final report was submitted in December of 2017.

2. Briefly describe the results of previous assessment report(s).

Program effectiveness data indicated a high pass rate for the national certification exam (99%) and a strong job placement rate (94%). Students indicated they were adequately prepared for entry-level positions in the field of radiography. An area of weakness was identified for SLO 3.1 involving an imaging lab used to assess the student's ability to adjust kVp and recognized changes in radiographic contrast. (Please review submitted assessment plan).

3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

During a program meeting at the end of the 2017 fall semester, Ms. Foster stated that all of the benchmarks for goal 3 were exceeded except for SLO 3.1, which used the RAD 124 kVp/contrast Lab assignment as the assessment tool. She noted that data from both the 2014-15 and 2015-16 assessments indicated that students did not meet the benchmark. Mr. Nelson stated that the effect of kVp on image contrast is a difficult concept for first year students to grasp. Mr. Skufis noted that the concept of kVp and contrast is not reinforced at the clinical sites because of the use of digital imaging and automatic exposure controls (AEC). The faculty agreed it would be best to replace the RAD 124 kVp/contrast lab assignment with another assessment tool. Ms. Foster recommended reviewing and revising RAD 111 to reinforce the concepts of kVp/contrast. Mr. Nelson suggested using the Effect of Distance on Density/Density Maintenance Formula lab. This lab will be effective in assessing the student's ability calculate the required exposure necessary to maintain exposure to the image receptor when distances are changed. Understanding this concept is essential in the clinical setting.

II. Background Information

1. Indicate the semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2016	2017	2017

DEC 7 2018  
*[Signature]*

2. Assessment tool(s) used (check all that apply):

- ☐ Portfolio
- ☐ Standardized test
- ☐ Other external certification/licensure exam (please describe): \_\_\_\_\_
- ☒ Graduate Survey
- ☒ Employer Survey
- ☐ Advisory Committee Survey
- ☐ Transfer follow-up
- ☐ Externally evaluated performance or exhibit
- ☒ Externally evaluation of job performance (internship, co-op, placement, other)
- ☐ Capstone experience (please describe):
- ☒ Other (please describe): Embedded Assessments

3. Have any of these tools been used before?

- ☒ Yes (if yes, identify the tool below and describe any changes made since it was last administered)
- ☐ No

*Changes:*

*For student Learning Outcome 3.1, the lab assignment Effect of kVp on Image Contrast was replaced with the lab assignment Effect of Distance on Density/Density Maintenance Formula*

4. Indicate the number of students assessed/total number of students enrolled in the course(s)/program.

All program students were evaluated (54)

5. Describe how you selected students for the assessment.

- a. Describe your sampling method.
- b. Describe the population assessed (e.g. students in capstone course, graduating students, alumni).

A. 1<sup>st</sup> and 2<sup>nd</sup> year radiography students. First year students entered the program in May of 2016 and Second year students entered the program in May of 2015.  
B. Continuing (1<sup>st</sup> year) and graduating students (2<sup>nd</sup> year – Class of 2017).

### III. Results

1. State every outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program. Add more lines as needed.

**Goal 1. Students will be clinically competent**

- 1.1 Students will perform diagnostic radiographic procedures.
- 1.2 Students will correctly operate radiographic equipment.
- 1.3 Students will demonstrate the ability to perform basic patient care assessment skills.

**Goal 2: Students will communicate effectively both orally and in writing.**

- 2.1 Students will use effective oral communication skills in the clinical setting.
- 2.2 Students will practice writing skills.

**Goal 3: Students will critically think and effectively solve problems.**

- 3.1 Students will calculate correct exposure factors.
- 3.2 Students will solve problems in the clinical setting.

**Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.**

- 4.1 Graduates will value the principles of lifelong learning.
- 4.2 Students will recognize the ethical and medical issues in patient care.

4.3 Students will exhibit professional behaviors in the clinical setting.
<b>Goal 5: Program Effectiveness Measures:</b>
5.1 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.
5.2 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation.
5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

2. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. **Please attach a summary of the data collected (as a separate document).** Add more lines as needed.

See attached 2016-17 Radiography Annual Assessment Report

3. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. **Please attach the rubric/scoring guide used for the assessment (as a separate document).** Add more lines as needed.

See attached 2016-17 Radiography Annual Assessment Report

4. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

#### Strengths:

1. Radiography students are mastering the radiographic concepts and skills as they progress through the program.
2. The 5 year ARRT first attempt pass rate for the ARRT Radiography certification exam is 98%. Although this is a percentage point reduction from the previous year, I am happy to report that the one student that failed from that cohort (Class of 2017) worked with program faculty and passed the exam in November of 2018.
3. The 5 year job placement rate increased from 94% to 97%.
4. Employers indicated that the graduates were adequately prepared for entry level positions.

#### Weaknesses:

The completion rate continues to fluctuate and hover just above the benchmark.

### IV. Changes influenced by assessment results

1. Based on the previous assessment report Action Plan(s) identified in Section I above, please discuss how effective any changes were in improving student learning.

A new assessment tool was utilized for SOL 3.1. The benchmark for the RAD 124 Distance Maintenance Formula lab assignment was met. The 2016-17 average score for the RAD 124 lab assignment was 25.36.

2. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses. If students met all expectations, describe your plan for continuous improvement.

Student expectations were met. The radiography program faculty will continue to review and update curriculum as need based on course guidelines from the American Society of Radiologic Technologists (ASRT) and American Registry of Radiologic Technologists (ARRT)

3. Identify any other intended changes that will be instituted based on results of this assessment activity. Describe changes and give rationale for change. (Check all that apply).

a. ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:

b. ☐ Program Curriculum:

- ☐ Course sequencing
- ☐ Course deletion
- ☐ Course addition
- ☐ Changes to existing program courses (specify):
- ☐ Other (specify):

c. ☐ Other (specify):

4. What is the timeline for implementing these actions?

#### V. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools were effective in documenting the success of the students as they progress through the program.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

#### Submitted by:

Name: [Signature] Date: 12-14-18  
Print/Signature

Department Chair: [Signature] Date: 12/14/18  
Print/Signature

Dean: [Signature] Date: 12-17-18  
Print/Signature

**Please return completed form to the Office of Curriculum & Assessment, SC 257.**

## PROGRAM ASSESSMENT REPORT

## I. Background Information

## 1. Program Assessed

Program name: Radiography Program

Program code: APRAD

Division: Health Science

Department: Allied Health Department - Radiography

Type of Award: ☐ A.A. ☐ A.S. ☒ A.A.S.  
☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Completion

## 2. Semester assessment was administered (check one):

- ☒ Fall 2015  
☒ Winter 2016  
☒ Spring/Summer 2016

## 3. Assessment tool(s) used (check all that apply):

- ☐ Portfolio  
☐ Standardized test  
☒ Other external certification/licensure exam (please describe): ARRT Radiography Certification

Exam

- ☒ Graduate Survey  
☒ Employer Survey  
☐ Advisory Committee Survey  
☐ Transfer follow-up  
☐ Externally evaluated performance or exhibit  
☒ Externally evaluation of job performance (internship, co-op, placement, other)  
☐ Capstone experience (please describe):  
☒ Other (please describe): embedded assessments

## 4. Have any of these tools been used before?

- ☒ Yes (if yes, identify which tool)  
☐ No

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.  
 Yes. Benchmarks were updated.

## 5. Indicate the number of students assessed/total number of students enrolled in the course.

45

## 6. Describe how students were selected for the assessment.

- a. Describe your sampling method. All 1st and 2nd year radiography students  
 b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? Continuing and graduating students

## II. Results

## 1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.

The radiography curriculum is being updated to phase out conventional film/screen concepts and phase in digital imaging concepts as the technology changes.

## PROGRAM ASSESSMENT REPORT

2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.

Goal 1: Students will be clinically competent.

- 1.1 Students will perform diagnostic radiographic procedures.
- 1.2 Students will operate radiographic equipment.
- 1.3 Students will demonstrate the ability to perform basic patient care assessment skills.

Goal 2: Students will communicate effectively both orally and in writing.

- 2.1 Students will use effective oral communication skills in the clinical setting.
- 2.2 Students will practice writing skills.

Goal 3: Students will critically think and effectively solve problems.

- 3.1 Students will calculate correct exposure factors.
- 3.2 Students will solve problems in the clinical setting.

Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.

- 4.1 Graduates will value the principles of lifelong learning.
- 4.2 Students will recognize the ethical and medical issues in patient care.
- 4.3 Students will exhibit professional behaviors in the clinical setting.

Goal 5: Program Effectiveness Measures

- 5.1 Five year average pass rate for the ARRT credentialing examination is not less than 75% on the 1<sup>st</sup> attempt.
- 5.2 Five year job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation.
- 5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
- 5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
- 5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected (as a separate document).***

See attached 2015-16 Radiography Annual Assessment Report.

3. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment (as a separate document).***

See attached 2015-16 Radiography Annual Assessment Report.

4. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

Strengths:

- 1. The radiography students are mastering the radiographic concepts and skills as they progress through the program.
- 2. The 5-year ARRT pass rate for the ARRT Radiography Certification exam is 99%.
- 3. The 5-year job placement rate is 94%.
- 4. Students indicated that the program adequately prepared them for an entry-level position.
- 5. Employers indicated that the graduates were adequately prepared for entry-level positions.

Weaknesses:

- 1. Students were not successful at recognizing how kVp affects image contrast.
- 2. The completion rate continues to fluctuate and hover just above the benchmark.

### III. Changes influenced by assessment results

PROGRAM ASSESSMENT REPORT

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.
  1. Use a different tool to evaluate SLO 3.1 – “Students will calculate correct exposure factors.” Also review and revise RAD 111 to reinforce the concept of kVp/contrast.
  2. The waitlist policy was abolished by the Board of Trustees in December 2014 and a competitive admission policy was adopted. The new competitive admission policy is expected to alleviate the number of voluntary withdrawals over the next few years as the last of the waitlisted applicants are admitted.
2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.
  - a. ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:
  - b. ☐ Program Curriculum:
    - ☐ course sequencing
    - ☐ course deletion
    - ☐ course addition
    - ☐ changes to existing program courses (specify):
    - ☐ other (specify):
  - c. ☐ Other (specify):
3. What is the timeline for implementing these actions?

IV. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.  
The assessment tools were effective in documenting the success of the students as they progress through the program.
2. If the assessment tools were not effective, describe the changes that will be made for future assessments.
3. Which outcomes from Program Assessment Planning or Program Proposal form have been addressed in this report?  
All ☒ Selected \_\_\_\_\_  
If “All”, provide the report date for the next full review: December 2018.  
If “Selected”, provide the report date for remaining outcomes: \_\_\_\_\_.

Submitted by:

Name: Connie Foster Date: 12/18/2017  
Print/Signature  
 Department Chair: Connie Foster Date: 12/18/2017  
Print/Signature  
 Dean: Valerie Greaves/Valerie Yuen Date: 12/20/17  
Print/Signature

*Please return completed form to the Office of Curriculum & Assessment, SC 257.*

PROGRAM ASSESSMENT REPORT

**I. Background Information**

1. Program Assessed

Program name: Radiography Program

Program code: APRAD

Division: Health Sciences

Department: Allied Health Department

Type of Award: ☐ A.A. ☐ A.S. ☒ A.A.S.  
☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Completion

2. Semester assessment was administered (check one):

- ☒ Fall 2014  
☒ Winter 2015  
☒ Spring/Summer 2015

3. Assessment tool(s) used (check all that apply):

- ☐ Portfolio  
☐ Standardized test  
☒ Other external certification/licensure exam (please describe): ARRT Radiography Certification

Exam

- ☒ Graduate Survey  
☒ Employer Survey  
☐ Advisory Committee Survey  
☐ Transfer follow-up  
☐ Externally evaluated performance or exhibit  
☐ Externally evaluation of job performance (internship, co-op, placement, other)  
☐ Capstone experience (please describe):  
☒ Other (please describe): Course embedded assessments

4. Have any of these tools been used before?

- ☒ Yes (if yes, identify which tool)  
☐ No

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.  
 No

5. Indicate the number of students assessed/total number of students enrolled in the course. 55 students  
 (23 first year radiography students and 22 second year radiography students enrolled in Radiography Program)

6. Describe how students were selected for the assessment.

- a. Describe your sampling method. All first and second year radiography students were evaluated  
 b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? continuing and graduating radiography students

**II. Results**

1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.  
 1. To provide students with the option for continuing their education upon completing the Radiography program an MRI program.  
 2. The waitlist for the radiography program was abolished and a competitive admission policy was adopted.
2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.



## PROGRAM ASSESSMENT REPORT

3. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected (as a separate document).***

Students exceeded all benchmarks except for one of the two benchmarks that were assessed for outcome 3.1 - Students will calculate correct exposure factors. Two tools were used to assess this outcome: RAD 120 Final Semester Technique Selection Evaluation and RAD 124 Effect of kVp on Image Contrast lab assignment. The average score for the RAD 124 lab assignment was 15 (benchmark average score  $\geq 17$ ) and the average score for the RAD 120 evaluation was 97% (benchmark average score was 80% or better). This data indicates that the first year radiography students had difficulty in grasping the concept of kVp and image contrast via the lab assignment but in the following semester the data from the RAD 120 Final Semester Technique Selection Evaluation showed that the same students demonstrated the ability to select the correct exposure factors. The results of the data for the 3.1 SLO indicate that as the radiography students progress through the program, they become proficient in using exposure factors. (See attached 2014-15 Annual Radiography Program Assessment Report)

4. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment (as a separate document).***

See the attached 2014-15 Annual Radiography Program Assessment Report

5. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

**Strengths:** Overall the radiography students are doing well across the curriculum. 100% of the graduates passed the national board exam on the first attempt and 100% of the graduates seeking employment found an entry level position. Graduates also expressed satisfaction with the program.

**Weaknesses:** One Outcome (3.1 ) was not met; the first year radiography students struggled with the concept of kVp and image contrast. Student retention continues to fluctuate.

### III. Changes influenced by assessment results

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.

The multiple assessment tools revealed that the radiography students were meeting or exceeding all of the outcomes except 3.1. The faculty will review and revise the learning activities in RAD 111 and RAD 124 to provide a better foundation in the concept of kVp and image contrast.

To address the student retention issue, the radiography program admission policy has been changed from the waitlist to a competitive admission process.

2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.

a. ☒ Outcomes/assessments from Program Assessment Planning or Program Proposal form: Two assessment tools will be used for each SLO; one for the 1st year students and one for the 2nd year students. (See attached 2014-15 Annual Radiography Program Assessment Report.)

b. ☐ Program Curriculum:

☐ course sequencing

☐ course deletion

☐ course addition

☒ changes to existing program courses (specify): RAD 111 & RAD 124 course materials on kVp and image contrast will be reviewed and updated.

PROGRAM ASSESSMENT REPORT

Submitted by:

Name: Connie Foster *Connie Foster* Date: 03/06/2017  
Print/Signature  
Department Chair: Connie Foster *Connie Foster* Date: 03/06/2017  
Print/Signature  
Dean: Valerie Greaves *Valerie Greaves* Date: 12/11/17  
Print/Signature

*Please return completed form to the Office of Curriculum & Assessment, SC 257.*

**PROGRAM ASSESSMENT REPORT**

**I. Background Information**

1. Program Assessed

Program name: Radiography

Program code: APRAD

Division: Health Sciences

Department: Allied Health Department

Type of Award: ☐ A.A. ☐ A.S. ☒ A.A.S.  
☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Completion

2. Semester assessment was administered (check one):

- ☒ Fall 2013  
☒ Winter 2014  
☒ Spring/Summer 2014

3. Assessment tool(s) used (check all that apply):

- ☐ Portfolio  
☐ Standardized test  
☒ Other external certification/licensure exam (please describe): ARRT Radiography Certification  
☒ Graduate Survey  
☒ Employer Survey  
☒ Advisory Committee Survey  
☐ Transfer follow-up  
☐ Externally evaluated performance or exhibit  
☐ Externally evaluation of job performance (internship, co-op, placement, other)  
☐ Capstone experience (please describe):  
☒ Other (please describe): Final Clinical Performance Evaluation & Professional Skills Evaluation;

Contrast Study Paper/Patient/Co-Worker Communication & Culture Diversity paper; Patient Skills checkout

4. Have any of these tools been used before?

- ☒ Yes (if yes, identify which tool) All tools were used before.  
☐ No

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.

The tools have not been altered.

5. Indicate the number of students assessed/total number of students enrolled in the course. 25 first-year students; 23 second-year students

6. Describe how students were selected for the assessment.

- a. Describe your sampling method. All first and second-year radiography students were included in the assessment.  
b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? Continuing and graduating students

**II. Results**

1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.

The waitlist was abolished and a competitive admission process was instituted.

**PROGRAM ASSESSMENT REPORT**

2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.

Goal 1: Students will be clinically competent.

- 1.1 Students will perform diagnostic radiographic procedures.
- 1.2 Students will operate radiographic equipment.
- 1.3 Students will demonstrate the ability to perform basic patient care assessment skills.

Goal 2: Students will communicate effectively both orally and in writing.

- 2.1 Students will use effective oral communication skills in the clinical setting.
- 2.2 Students will practice writing skills.

Goal 3: Students will critically think and effectively solve problems.

- 3.1 Students will calculate correct exposure factors.
- 3.2 Students will solve problems in the clinical setting.

Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.

- 4.1 Graduates will value the principles of lifelong learning.
- 4.2 Students will recognize the ethical and medical issues in patient care.
- 4.3 Students will exhibit professional behaviors in the clinical setting.

Goal 5: Program Effectiveness Measures

- 5.1 Five year average pass rate for the ARRT credentialing examination is not less than 75% on the 1<sup>st</sup> attempt.
- 5.2 Five year job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation.
- 5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
- 5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
- 5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

## PROGRAM ASSESSMENT REPORT

Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. *Please attach a summary of the data collected (as a separate document).*

See attached 2013-14 Annual Assessment Report

<b>Goal 1: Students will be clinically competent.</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
1.1	Students will perform diagnostic radiographic procedures.	Competency Maintenance section (12A and 12B) of the Final Clinical Performance Evaluation for RAD 240.	On a sampling of the Final Clinical Performance Evaluation (Competency Maintenance section), 95% of students will achieve a performance rating of 10 points or above on a 0- to 20-point scale, with 20 points awarded for "Effective Performance," 10 points awarded for "Adequate Performance, but needs improvement," and 0 points for "Inadequate Performance" when the students' clinical instructors are asked (12A) "On a regular basis, the student performs radiographic procedures previously mastered from prior semesters," and (12B) "When the student is involved in these procedures, the student is able to execute the examination with a minimum or no assistance."	<p>Twenty-four students enrolled in RAD 240 were assessed; all 24 (100%) received an "Effective Performance" rating from their clinical instructors for these metrics.</p> <p><i>Exceeded benchmark</i></p> <p><u>Actions:</u> No actions taken. Results were the same as last year. Continue to measure.</p>
1.2	Students will operate radiographic equipment.	The Technical Aptitude section (C1 and C2) for General Radiography, Portable Radiography, and Fluoroscopic Radiography of the Final Clinical Performance Evaluation for RAD 240.	On a sampling of the Final Clinical Performance Evaluation (Technical Aptitude section), 95% of students will receive a "3" or better on a 1 to 4 Likert scale with "4" indicating the student performs at the appropriate competency level, "3" that the student's performance is satisfactory but could use some improvement, "2" that the performance is unsatisfactory and needs much improvement, and "1" indicating not at the appropriate competency level for "Setting Exposure Technique" and "X-Ray Tube and Bucky Tray Competency" in the areas of General Radiography, Portable Radiography, and Fluoroscopic Radiography.	<p>Twenty-four students enrolled in RAD 240 were assessed; 23 of the 24 students (96%) received a "4" indicating these students perform at the appropriate competency level, and 1 of the 24 (4%) received a "3" indicating that <del>these</del> students' performances <del>were</del> satisfactory but could use some improvement. No students received a "2" or "1" for "Setting Exposure Technique" and "X-Ray Tube and Bucky Tray Competency" in the areas of General Radiography, Portable Radiography, and Fluoroscopic Radiography.</p> <p><i>Exceeded benchmark</i></p> <p><u>Actions:</u> No actions taken. Results were the same as last year. Continue to measure.</p>
1.3	Students will demonstrate the ability to perform basic patient care assessment skills.	RAD 222 Patient Assessment Skills Check Out Form	On a sampling of the Patient Assessment Skills Check Out Form, 90% students will achieve passing grade on the venipuncture skills checkout form.	<p>Twenty-three out of twenty-three (100%) students achieved a passing grade on the venipuncture skills checkout form</p> <p><i>Exceeded benchmark</i></p> <p><u>Actions:</u> No actions taken. Results were the same as last year. Continue to measure.</p>

PROGRAM ASSESSMENT REPORT

<b>Goal 2: Students will communicate effectively both orally and in writing.</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
2.1	Students will use effective oral communication skills in the clinical setting.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale with "5" indicating strongly agrees, "4" agrees, "3" neither agrees nor disagrees, "2" disagrees, and "1" strongly disagrees when responding to the statement in question 1, "The student communicates with patients in a manner that you would expect/require of an entry-level radiology staff member."	Fifteen of the Radiography Student Professional Skills Evaluations were returned, and all fifteen evaluations (100%) scored with a "4" or better for this metric.  <i>Exceeded benchmark</i>  <u>Actions:</u> No actions taken. Results were the same as last year. Continue to measure.
2.2	Students will practice writing skills.	Contrast Case Study paper	90% of students will achieve a score of 80% or better on the Contrast Case Study writing assignment of RAD 120.	Twenty-five student papers were evaluated. Twenty-four of the twenty-five (96%) received a score above 80%, the high score was 100% and the low score was 70%.  <i>Exceeded benchmark</i>  <u>Actions:</u> No actions taken. Results were the same as last year. Continue to measure

<b>Goal 3: Students will critically think and effectively solve problems</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
3.1	Students will calculate correct exposure factors.	RAD 124 the Effect of kVp on Image Contrast lab assignment	90% of students will score 80% or higher on the Effect of kVp on Image Contrast lab activity.	23 of the 25 (92%) students scored 80% and above on the Effect of kVp on Image Contrast lab activity.  <i>Exceeded benchmark</i>  <u>Actions:</u> No actions taken. Results were same as last year. Continue to measure.
3.2.	Students will solve problems in the clinical setting.	Radiography Student Professional Skills Evaluation	90% of the completed Radiography Student Professional Skills Evaluations will rate the students with a "4" or better on a 1 to 5 Likert scale with "5" indicating strongly agrees, "4" agrees, "3" neither agrees nor disagrees, "2" disagrees, and "1" strongly disagrees on question 6, "The student is able to reason through a problem, taking into account all available information, in a manner similar to an entry-level staff member when taking images."	Fifteen Radiography Student Professional Skills Evaluations were returned, and all fifteen evaluations (100%) were scored with a "4" or better (100%) for this metric  <i>Exceeded benchmark</i>  <u>Actions:</u> No actions taken. Results were same as last year. Continue to measure.

<b>Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.</b>				
	<b>Student</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>

PROGRAM ASSESSMENT REPORT

	Outcomes			
4.1	Graduates will value the principles of life long learning.	Graduate Exit Survey	50% of second-year students will indicate a desire to continue their education by responding to the statement, "Do you have plans to continue your education within the next 12 months?" on the Graduate Exit Survey.	<p>Of the 20 responses from the Graduate Exit Survey, 5% (1) of the students plan to continue within the next 12-months at a 4-year college/university; 65% (13) plan to enter an advanced imaging program; 25% (5) students were undecided and 5% (1) student did not plan to seek additional education.</p> <p><i>Exceeded benchmark</i></p> <p><u>Actions:</u> A Magnetic Resonance Imaging (MRI) program has been developed, And will be offered for the first time in Fall 2015. Graduates will have the option of continuing in the MRI, CT or Mammography Program. Results indicated no significant difference from last year. Continue to measure.</p>
4.2	Students will recognize the ethical and medical issues in patient care.	RAD 110 writing assignment, Patient/Co-Worker Communication and Cultural Diversity	90% of the students will achieve a score of 80% or better on the Patient/Co-Worker Communication and Cultural Diversity writing assignment for RAD 110.	<p>Twenty-five student papers were evaluated. All 25 (100%) received a score above 80%--the high score was 100% and the low score was 90%.</p> <p><i>Exceeded benchmark</i></p> <p><u>Actions:</u> No actions taken. Results were same as last year. Continue to measure.</p>
4.3	Students will exhibit professional behaviors in the clinical setting.	RAD 240 Final Performance Evaluation	From the Final Clinical Performance Evaluation (Professional Mannerism section), 90% of students will achieve a performance rating of 10 points or above on a 0- to 20-point scale, with 20 points awarded for "Effective Performance," 10 points awarded for "Adequate Performance, but needs improvement," and 0 points for "Inadequate Performance" when the students' clinical instructors are asked if the student has the ability to display professionalism in the clinical setting.	<p>Twenty-five students enrolled in RAD 240 were assessed; 24 (96%) of the 25 students received an "Effective Performance" rating (20 points) and 1 (4%) received an "Adequate Performance, but needs improvement" rating (10 points) from their clinical instructors for this metric.</p> <p><i>Exceeded benchmark</i></p> <p><u>Actions:</u> No actions taken. Results were slightly lower than last year's 100%. Continue to measure.</p>

## PROGRAM ASSESSMENT REPORT

Program Effectiveness Measures:																												
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions																								
1.	5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.	ARRT Annual Program Summary Report for WCC graduates	Five-year average pass rate of not less than 75% on the 1 <sup>st</sup> attempt of the National Radiography Certificate Examination administered by the American Registry of Radiologic Technologist (ARRT).	<table><tr><td>Year</td><td># Candidates</td><td>#Pass</td><td>% Pass</td></tr><tr><td>2010</td><td>24</td><td>23</td><td>96%</td></tr><tr><td>2011</td><td>26</td><td>26</td><td>100%</td></tr><tr><td>2012</td><td>22</td><td>22</td><td>100%</td></tr><tr><td>2013</td><td>22</td><td>22</td><td>100%</td></tr><tr><td>2014</td><td>23</td><td>22*</td><td>96%</td></tr></table> <p><b>Five-Year Average: 98.3%</b></p> <p>*one graduate failed on first attempt but passed on the second attempt.</p> <p><i>Exceeded benchmark</i></p> <p><u>Actions:</u> No actions taken. Continue to measure.</p>	Year	# Candidates	#Pass	% Pass	2010	24	23	96%	2011	26	26	100%	2012	22	22	100%	2013	22	22	100%	2014	23	22*	96%
Year	# Candidates	#Pass	% Pass																									
2010	24	23	96%																									
2011	26	26	100%																									
2012	22	22	100%																									
2013	22	22	100%																									
2014	23	22*	96%																									
2.	5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation.	Graduate Survey	Five-year average job placement rate of not less than 75% within 12 months of graduation.	<table><tr><td>Year</td><td>% Employment Rate</td></tr><tr><td>2010</td><td>78%</td></tr><tr><td>2011</td><td>90%</td></tr><tr><td>2012</td><td>86%</td></tr><tr><td>2013</td><td>94%</td></tr><tr><td>2004</td><td>87%</td></tr></table> <p>5-year average job placement rate: 86.7%</p> <p><i>Exceeded benchmark</i></p> <p><u>Actions:</u> No actions taken. Continue to measure.</p>	Year	% Employment Rate	2010	78%	2011	90%	2012	86%	2013	94%	2004	87%												
Year	% Employment Rate																											
2010	78%																											
2011	90%																											
2012	86%																											
2013	94%																											
2004	87%																											



PROGRAM ASSESSMENT REPORT

Program Effectiveness Measures:				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
3.	Students admitted to the program will successfully complete the program within the 2-year sequence.	Admission/ Graduation data	70% of the students admitted and enrolled in the program will complete the program within two years. Measure will be based on program retention rates (i.e., number of students admitted to the program and the number of students who complete the program within two years.)	<p>23 (74%) of the 31 students admitted (Class of 2014) to the program completed within the 2-year sequence. (4 voluntary withdrawals; 4 dismissals)</p> <p><i>Exceeded benchmark</i></p> <p><u>Actions:</u> The waitlist admission process has been abolished and a competitive admission policy has been adopted. The results were slightly higher than last year's 72%. Continue to measure.</p>
4.	Graduates will indicate that the program adequately prepared them for entry-level positions.	Graduate Exit Survey	90% of graduates will express satisfaction with the program by responding to the statement, "Do you feel that the WCC Radiography Program prepared you for an entry-level position in a radiology department?" on the Graduate Exit.	<p>Of the 20 students who responded to the Graduate Exit Survey, 20 (100%) felt that the WCC Radiography Program prepared them for an entry-level position in a radiology department. 60% (12) students strongly agreed and 40% (8) students agreed.</p> <p><i>Exceeded benchmark</i></p> <p><u>Actions:</u> No actions taken. Results were the same as last year. Continue to measure.</p>
5.	Employers will indicate that the program graduates are adequately prepared for entry-level positions.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale when responding to the statement in question 9, "If an entry-level position was open and this student was applying, you would hire this student."	<p>Fifteen of the Radiography Student Professional Skills Evaluations were returned. Twelve of the fifteen evaluations (80%) were scored with a "4" or better (80%) for this metric.</p> <p><i>Met benchmark</i></p> <p><u>Actions:</u> No actions taken. Results were slightly lower than last year's 81%. Continue to measure.</p>

## PROGRAM ASSESSMENT REPORT

3. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. *Please attach the rubric/scoring guide used for the assessment (as a separate document).*  
See the "Benchmark" and "Results/Action" above.
4. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

## Strengths:

The radiography students have consistently performed at or above the benchmarks established for the program learning outcomes. The students have also met or exceeded the standards established by the JRCERT, the program accreditation agency and the ARRT, the professional organization that administers the national radiography board exam.

Weaknesses: No weakness in students' achievement of learning outcomes was noted. Program retention and completion continue to be a weak area.

**III. Changes influenced by assessment results**

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.

The Radiography Program admission procedure has been changed to a competitive admission process.

2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.

a. ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:

b. ☐ Program Curriculum:

☐ course sequencing

☐ course deletion

☐ course addition

☐ changes to existing program courses (specify):

☐ other (specify):

c. ☐ Other (specify):

3. What is the timeline for implementing these actions?

**IV. Future plans**

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools have been very effective in measuring student success. The 5-year pass rate for the ARRT credentialing exam is 98.3% and the 5-year average employment rate is 87%.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

3. Which outcomes from Program Assessment Planning or Program Proposal form have been addressed in this report?

All ☒ Selected \_\_\_\_\_

If "All", provide the report date for the next full review: Fall 2016

If "Selected", provide the report date for remaining outcomes: \_\_\_\_\_.

PROGRAM ASSESSMENT REPORT

Submitted by:

Name: Connie Foster Connie Foster Date: 11/19/15  
 Print/Signature

Department Chair: Connie Foster Connie Foster Date: 11/19/15  
 Print/Signature

Dean: Valerie Greaves Valerie Greaves/Valerie Greaves Date: 11/24/15  
 Print/Signature

*Approved by Assessment Committee 1/14/16*

*Please return completed form to the Office of Curriculum & Assessment, SC 257.*

**PROGRAM ASSESSMENT REPORT**

**I. Background Information**

1. Program Assessed

Program name: Radiography Program

Program code: APRAD

Division:

Department:

Type of Award: ☐ A.A. ☐ A.S. ☒ A.A.S.  
☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Completion

2. Semester assessment was administered (check one):

☒ Fall 2012

☒ Winter 2013

☒ Spring/Summer 2013

3. Assessment tool(s) used (check all that apply):

☐ Portfolio

☐ Standardized test

☒ Other external certification/licensure exam (please describe):

ARRT Radiography Certification Exam

☒ Graduate Survey

☒ Employer Survey

☐ Advisory Committee Survey

☐ Transfer follow-up

☐ Externally evaluated performance or exhibit

☐ Externally evaluation of job performance (internship, co-op, placement, other)

☐ Capstone experience (please describe):

☒ Other (please describe): Final Clinical Performance Evaluation & Professional Skills Evaluation;

4. Have any of these tools been used before?

☒ Yes (if yes, identify which tool)

☐ No

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.

No

5. Indicate the number of students assessed/total number of students enrolled in the course. 23 first year students and 22 second year students

6. Describe how students were selected for the assessment.

a. Describe your sampling method. all radiography program students

b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? graduating students and continuing students

**II. Results**

1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.

RAD 103 Medical Professionalism in Clinical Radiography was added to the program. We have also continued to express the need to change the admission policy to a selective admission process.

**PROGRAM ASSESSMENT REPORT**

2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.

Goal 1: Students will be clinically competent.

- 1.1 Students will perform diagnostic radiographic procedures.
- 1.2 Students will operate radiographic equipment.
- 1.3 Students will demonstrate the ability to perform basic patient care assessment skills.

Goal 2: Students will communicate effectively both orally and in writing.

- 2.1 Students will use effective oral communication skills in the clinical setting.
- 2.2 Students will practice writing skills.

Goal 3: Students will critically think and effectively solve problems.

- 3.1 Students will calculate correct exposure factors.
- 3.2 Students will solve problems in the clinical setting.

Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.

- 4.1 Graduates will value the principles of lifelong learning.
- 4.2 Students will recognize the ethical and medical issues in patient care.
- 4.3 Students will exhibit professional behaviors in the clinical setting.

Goal 5: Program Effectiveness Measures

- 5.1 Five year average pass rate for the ARRT credentialing examination is not less than 75% on the 1<sup>st</sup> attempt.
- 5.2 Five year job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation.
- 5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
- 5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
- 5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

PROGRAM ASSESSMENT REPORT

Goal 1: Students will be clinically competent.				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
1.1	Students will perform diagnostic radiographic procedures.	Competency Maintenance section (12A and 12B) of the Final Clinical Performance Evaluation for RAD 240.	On a sampling of the Final Clinical Performance Evaluation (Competency Maintenance section) 95% of students will achieve a performance rating of 10 points or above on a 0- to 20-point scale, with 20 points awarded for "Effective Performance," 10 points awarded for "Adequate Performance, but needs improvement," and 0 points for "Inadequate Performance" when the students' clinical instructors are asked (12A) "On a regular basis the student performs radiographic procedures previously mastered from prior semesters," and (12B) "When the student is involved in these procedures the student is able to execute the examination with a minimum or no assistance."	<p>Twenty-two students enrolled in RAD 240 were assessed; all 22 received an "Effective Performance" rating from their clinical instructors for these metrics.</p> <p><b>Exceeded Benchmark</b></p>
1.2	Students will operate radiographic equipment.	The Technical Aptitude section (C1 and C2) for General Radiography, Portable Radiography, and Fluoroscopic Radiography of the Final Clinical Performance Evaluation for RAD 240.	On a sampling of the Final Clinical Performance Evaluation (Technical Aptitude section) 95% of students will receive a "3" or better on a 1 to 4 Likert scale with "4" indicating the student performs at the appropriate competency level, "3" that the student's performance is satisfactory but could use some improvement, "2" that the performance is unsatisfactory and needs much improvement, and "1" indicating not at the appropriate competency level for "Setting Exposure Technique" and "X-Ray Tube and Bucky Tray Competency" in the areas of General Radiography, Portable Radiography, and Fluoroscopic Radiography.	<p>Twenty-two students enrolled in RAD 240 were assessed; 21 of the 22 received a "4" indicating these students perform at the appropriate competency level, and 1 of the 22 received a "3" indicating that these students' performances were satisfactory but could use some improvement. No students received a "2" or "1" for "Setting Exposure Technique" and "X-Ray Tube and Bucky Tray Competency" in the areas of General Radiography, Portable Radiography, and Fluoroscopic Radiography.</p> <p><b>Exceeded Benchmark</b></p>
1.3	Students will demonstrate the ability to perform basic patient care assessment skills.	RAD 222 Patient Assessment Skills Check Out Form	90% of the students will attain a score of 100% to demonstrate competency on the venipuncture skills check out form.	<p>Twenty-three students enrolled in RAD 222 were assessed. All 23 students (100%) received a score of 100% on the venipuncture skills checkout form.</p> <p><b>Exceeded Benchmark</b></p>

## PROGRAM ASSESSMENT REPORT

Goal 2: Students will communicate effectively both orally and in writing.				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
2.1	Students will use effective oral communication skills in the clinical setting.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale when responding to the statement in question 1, "The student communicates with patients in a manner that you would expect/require of entry-level radiology staff member."	Twenty-one of the Radiography Student Professional Skills Evaluations were returned. All twenty-one evaluations were scored with a "4" or better (100%) for this metric.  <b>Exceeded Benchmark</b>
2.2	Students will practice writing skills.	Contrast Case Study paper	90% of the students will achieve a score of 80% or better on the Contrast Case Study writing assignment of RAD 120.	Twenty-three student papers were evaluated. Twenty-two of the twenty-three received a score above 80%. The high score was 100% and the low score was 70%.  <b>Met Benchmark</b>

Goal 3: Students will critically think and effectively solve problems				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
3.1	Students will calculate correct exposure factors.	RAD 124 the Effect of kVp on Image Contrast lab assignment	90% of students will score 80% or higher on the Effect of kVp on Image Contrast lab activity.	Twenty-five completed the lab activity on the Effects of kVp on Image Contrast. 23 out of 25 (92%) students received an 80% or higher on the assignment.  <b>Exceeded Benchmark</b>
3.2.	Students will solve problems in the clinical setting.	Radiography Student Professional Skills Evaluation	90% of the completed Radiography Student Professional Skills Evaluations will rate the students with a "4" or better on a 1 to 5 Likert scale with "5" indicating strongly agrees, "4" agrees, "3" neither agrees nor disagrees, "2" disagrees, and "1" strongly disagrees on question 6, "The student is able to reason through a problem, taking into account all available information, in a manner similar to an entry-level staff member when taking images."	Twenty-one of the Radiography Student Professional Skills Evaluations were returned. All twenty-one evaluations were scored with a "4" or better (100%) for this metric.  <b>Exceeded Benchmark</b>

PROGRAM ASSESSMENT REPORT

Goal 4 : Students will exhibit professional values, attitudes, behaviors, and ethics.				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
4.1	Graduates will value the principles of life long learning.	Graduate Exit Survey	50% of second year students will indicate a desire to continue their education by responding to the statement, "Do you have plans to continue your education within the next 12 months?" on the Graduate Exit Survey.	Of the 13 responses from the Graduate Exit Survey 77% (10) plan to enter an advanced imaging modality; 15% (2) were undecided; and 8% (1) did not plan to continue. <b>Exceeded Benchmark</b>
4.2	Students will recognize the ethical and medical issues in patient care.	RAD 110 writing assignment, Patient/Co-Worker Communication and Cultural Diversity	90% of the students will achieve a score of 80% or better on the Patient/Co-Worker Communication and Cultural Diversity writing assignment for RAD 110.	Twenty-three student papers were evaluated. All 23 (100%) received a score above 80%--the high score was 100% and the low score was 80%. <b>Exceeded Benchmark</b>
4.3	Students will exhibit professional behaviors in the clinical setting.	RAD 240 Final Performance Evaluation	From the Final Clinical Performance Evaluation (Professional Mannerism section), 90% of students will achieve a performance rating of 10 points or above on a 0- to 20-point scale, with 20 points awarded for "Effective Performance," 10 points awarded for "Adequate Performance, but needs improvement," and 0 points for "Inadequate Performance" when the students' clinical instructors are asked if the student has the ability to display professionalism in the clinical setting.	Twenty-two students enrolled in RAD 240 were assessed; all 22 received an "Effective Performance" rating from their clinical instructors for these metrics. <b>Exceeded Benchmark</b>



PROGRAM ASSESSMENT REPORT

Program Effectiveness Measures:						
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions		
1.	5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.	ARRT Annual Program Summary Report for WCC graduates	Five-year average pass rate of not less than 75% on the 1 <sup>st</sup> attempt of the National Radiography Certificate Examination administered by the American Registry of Radiologic Technologist (ARRT).	Year	# Candidates	% Pass
				2009	37	97%
				2010	24	96%
				2011	27	100%
				2012	22	100%
				2013	22	100%
				<b>Five-Year Average: 99%</b>		
				<b>Exceeded Benchmark</b> (note: one graduate of the Class of 2013 has not taken the ARRT exam because of personal issues.)		
2.	5-year average job placement rate of graduates actively seeking employment is not less than 75% within 6 months of graduation.	Graduate Survey	Five-year average job placement rate of not less than 75% within 12 months of graduation for graduates actively seeking employment.	Year	% Employment Rate	
				2009	96%	
				2010	77%	
				2011	90%	
				2012	86%	
				2013	94%	
				5-year average job placement rate: 89%		
				<b>Exceeded Benchmark</b>		

PROGRAM ASSESSMENT REPORT

Program Effectiveness Measures:				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
3.	Students admitted to the program will successfully complete the program within the 2-year sequence.	Admission/ Graduation data	70% of the students admitted and enrolled in the program will complete the program within two years. Measure will be based on program retention rates (i.e., number of students admitted to the program and the number of students who complete the program within two years.).	23 (72%) of the 32 students admitted (Class of 2013) to the program completed within the 2-year sequence. (6 voluntary withdrawals; 3 dismissals)  <b>Exceeded Benchmark</b>
4.	Graduates will indicate that the program adequately prepared them for entry-level positions.	Graduate Exit Survey	90% of graduates will express satisfaction with the program by responding to the statement, "Do you feel that the WCC Radiography Program prepared you for an entry-level position in a radiology department?" on the Graduate Exit.	Of the 13 students who responded to the Graduate Exit Survey, 13 (100%) felt that the WCC Radiography Program prepared them for an entry-level position in a radiology department. 77% (10) students strongly agreed and 23% (3) students agreed.  <b>Exceeded Benchmark</b>
5.	Employers will indicate that the program graduates are adequately prepared for entry-level positions.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale when responding to the statement in question 9, "If an entry-level position was open and this student was applying, you would hire this student."	Twenty-one of the Radiography Student Professional Skills Evaluations were returned. Seventeen of the twenty-one evaluations were scored with a "4" or better (81%) for this metric.  <b>Met Benchmark</b>

**PROGRAM ASSESSMENT REPORT**

3. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. *Please attach a summary of the data collected (as a separate document).*

See attached 2012-13 Radiography Program Annual Assessment Report above.

4. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. *Please attach the rubric/scoring guide used for the assessment (as a separate document).*

See attached 2012-13 Radiography Program Annual Assessment Report above.

5. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

Strengths: The radiography students have continued to perform above average in both the didactic and clinical portions of the program.

Weaknesses: 1. Although the program retention rate benchmark was met, there continues to be a high number of students withdrawing from the program. During the 2012-13 academic year 6 students withdrew and 3 students were dismissed from the program.

**III. Changes influenced by assessment results**

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.

1. To reduce the voluntary withdrawal rate the waitlist must be abandoned and a selective admission process adopted.

2. Although the ARRT credentialing exam pass rate was exceeded, the radiography curriculum will be updated by dropping RAD 226 Radiographic Quality Assurance and adding RAD 232 Introduction to Digital Radiography.

2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.

- a. ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:

- b. ☐ Program Curriculum:

☐ course sequencing

☒ course deletion

☒ course addition

☐ changes to existing program courses (specify):

☐ other (specify):

- c. ☒ Other (specify): Explore possibility of changing to a selective admission process to reduce student withdrawal rate.

3. What is the timeline for implementing these actions? RAD 232 Introduction to Digital Radiography will be added in Winter 2015.

**IV. Future plans**

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools were effective. The radiography students performed well on the national board exam and they are obtaining jobs after graduation.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

## PROGRAM ASSESSMENT REPORT

3. Which outcomes from Program Assessment Planning or Program Proposal form have been addressed in this report?

All X Selected \_\_\_\_\_

If "All", provide the report date for the next full review: September 2015.

If "Selected", provide the report date for remaining outcomes: \_\_\_\_\_.

## Submitted by:

Name: Connie Foster Connie Foster Date: 09/09/14  
 Print/Signature  
 Department Chair: Connie Foster Connie Foster Date: 09/09/14  
 Print/Signature  
 Dean: Kris Brandemuehl Kris Brandemuehl Date: 9/11/2014  
 Print/Signature

*Please return completed form to the Office of Curriculum & Assessment, SC 257.*

PROGRAM ASSESSMENT REPORT

I. Background Information

1. Program Assessed

Program name: Radiography Program

Program code: APRAD

Division: MSH

Department: Allied Health Department

Type of Award: ☐ A.A. ☒ A.S. ☐ A.A.S.  
☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Completion

2. Semester assessment was administered (check one):

☒ Fall 2011  
☒ Winter 2012  
☒ Spring/Summer 2012

3. Assessment tool(s) used (check all that apply):

☐ Portfolio  
☐ Standardized test  
☒ Other external certification/licensure exam (please describe):  
ARRT Radiography Certification Exam  
☒ Graduate Survey  
☒ Employer Survey  
☒ Advisory Committee Survey  
☐ Transfer follow-up  
☐ Externally evaluated performance or exhibit  
☐ Externally evaluation of job performance (internship, co-op, placement, other)  
☐ Capstone experience (please describe):  
☒ Other (please describe): Final Clinical Performance Evaluation & Professional Skills Evaluation; Contrast Study Paper; Patient/Co-Worker Communication & Culture Diversity paper were used for the clinical courses: Patient Assessment Skills Check Out was used for RAD 222.

4. Have any of these tools been used before?

☐ Yes (if yes, identify which tool)  
☒ No

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.

5. Indicate the number of students assessed/total number of students enrolled in the course. 25 first-year radiography students and 22 second-year radiography students

6. Describe how students were selected for the assessment.

- a. Describe your sampling method.  
b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? Graduating Class of 2012

X

II. Results

1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.

The number of students admitted to the radiography program was reduced to 32 students (previously was 34 students).

**PROGRAM ASSESSMENT REPORT**

2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.

Goal 1: Students will be clinically competent.

- 1.1 Students will perform diagnostic radiographic procedures.
- 1.2 Students will operate radiographic equipment.
- 1.3 Students will demonstrate the ability to perform basic patient care assessment skills.

Goal 2: Students will communicate effectively both orally and in writing.

- 2.1 Students will use effective oral communication skills in the clinical setting.
- 2.2 Students will practice writing skills.

Goal 3: Students will critically think and effectively solve problems.

- 3.1 Students will calculate correct exposure factors.
- 3.2 Students will solve problems in the clinical setting.

Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.

- 4.1 Graduates will value the principles of lifelong learning.
- 4.2 Students will recognize the ethical and medical issues in patient care.
- 4.3 Students will exhibit professional behaviors in the clinical setting.

Goal 5: Program Effectiveness Measures

- 5.1 Five year average pass rate for the ARRT credentialing examination is not less than 75% on the 1<sup>st</sup> attempt.
- 5.2 Five year job placement rate of graduates actively seeking employment is not less than 75% within 6 months of graduation.
- 5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
- 5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
- 5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

## PROGRAM ASSESSMENT REPORT

<b>Goal 1: Students will be clinically competent.</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
1.1	Students will perform diagnostic radiographic procedures.	Competency Maintenance section (12A and 12B) of the Final Clinical Performance Evaluation for RAD 240.	On a sampling of the Final Clinical Performance Evaluation (Competency Maintenance section) 95% of students will achieve a performance rating of 10 points or above on a 0- to 20-point scale, with 20 points awarded for "Effective Performance," 10 points awarded for "Adequate Performance, but needs improvement," and 0 points for "Inadequate Performance" when the students' clinical instructors are asked (12A) "On a regular basis the student performs radiographic procedures previously mastered from prior semesters," and (12B) "When the student is involved in these procedures the student is able to execute the examination with a minimum or no assistance."	Twenty-two students enrolled in RAD 240 were assessed; all 22 (100%) received an "Effective Performance" rating from their clinical instructors for these metrics.  <i>Exceeded benchmark</i>
1.2	Students will operate radiographic equipment.	The Technical Aptitude section (C1 and C2) for General Radiography, Portable Radiography, and Fluoroscopic Radiography of the Final Clinical Performance Evaluation for RAD 240.	On a sampling of the Final Clinical Performance Evaluation (Technical Aptitude section) 95% of students will receive a "3" or better on a 1 to 4 Likert scale with "4" indicating the student performs at the appropriate competency level, "3" that the student's performance is satisfactory but could use some improvement, "2" that the performance is unsatisfactory and needs much improvement, and "1" indicating not at the appropriate competency level for "Setting Exposure Technique" and "X-Ray Tube and Bucky Tray Competency" in the areas of General Radiography, Portable Radiography, and Fluoroscopic Radiography.	Twenty-two students enrolled in RAD 240 were assessed; 20 of the 22 (91%) received a "4" indicating these students perform at the appropriate competency level, and 2 of the 22 (9%) received a "3" indicating that these students' performances were satisfactory but could use some improvement. No students received a "2" or "1" for "Setting Exposure Technique" and "X-Ray Tube and Bucky Tray Competency" in the areas of General Radiography, Portable Radiography, and Fluoroscopic Radiography.  <i>Exceeded benchmark</i>
1.3	Students will demonstrate the ability to perform basic patient care assessment skills.	RAD 222 Patient Assessment Skills Check Out Form	On a sampling of the Patient Assessment Skills Check Out Form, 90% students will achieve passing grade on the venipuncture skills check out form.	Of the 25 students enrolled in RAD 222, 100% (25) of the students scored between 90% - 100%  <i>Exceeded Benchmark</i>

## PROGRAM ASSESSMENT REPORT

<b>Goal 2: Students will communicate effectively both orally and in writing.</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
2.1	Students will use effective oral communication skills in the clinical setting.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale when responding to the statement in question 1, "The student communicates with patients in a manner that you would expect/require of entry-level radiology staff member."	Fifteen of the Radiography Student Professional Skills Evaluations were returned. Thirteen of the fifteen evaluations were scored with a "4" or better (87%) for this metric.  <i>Exceeded benchmark</i>
2.2	Students will practice writing skills.	Contrast Case Study paper	90% students will achieve a score of 80% or better on the Contrast Case Study writing assignment of RAD 120.	Twenty six student papers were evaluated. All 26 (100%) received a score above 80%--the high score was 100% and the low score was 80%.  <i>Exceeded benchmark</i>

<b>Goal 3: Students will critically think and effectively solve problems</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
3.1	Students will calculate correct exposure factors.	RAD 124 the Effect of kVp on Image Contrast lab assignment	90% of students will score 80% or higher on the Effect of kVp on Image Contrast lab activity.	Twenty-six students were evaluated. Twenty-four of the students (92%) scored 80% or better on this activity.  <i>Exceeded benchmark</i>
3.2.	Students will solve problems in the clinical setting.	Radiography Student Professional Skills Evaluation	90% of the completed Radiography Student Professional Skills Evaluations will rate the students with a "4" or better on a 1 to 5 Likert scale with "5" indicating strongly agrees, "4" agrees, "3" neither agrees nor disagrees, "2" disagrees, and "1" strongly disagrees on question 6, "The student is able to reason through a problem, taking into account all available information, in a manner similar to an entry-level staff member when taking images."	Fifteen of the 22 Radiography Student Professional Skills Evaluations were returned. Fifteen of the fifteen evaluations were scored with a "4" or better (100%) for this metric  <i>Exceeded benchmark</i>



## PROGRAM ASSESSMENT REPORT

Goal 4 : Students will exhibit professional values, attitudes, behaviors, and ethics.				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
4.1	Graduates will value the principles of life long learning.	Graduate Exit Survey	50% of second year students will indicate a desire to continue their education by responding to the statement, "Do you have plans to continue your education within the next 12 months?" on the Graduate Exit Survey.	Of the 14 responses from the Graduate Exit Survey 7% (1) of the students plan to continue at a 4-year institution; 57% (8) students plan to enter an advanced imaging modality; 21% (3) students were undecided; 14% (2) expressed no interest in earning a higher degree.  <i>Exceeded Benchmark.</i> <i>Of the 2012 graduates, 4 students were admitted to the Mammography program and 4 students were admitted to the CT program.</i>
4.2	Students will recognize the ethical and medical issues in patient care.	RAD 110 writing assignment, Patient/Co-Worker Communication and Cultural Diversity	90% of the students will achieve a score of 80% or better on the Patient/Co-Worker Communication and Cultural Diversity writing assignment for RAD 110.	Twenty six student papers were evaluated. All 25 (100%) received a score above 80%--the high score was 100% and the low score was 90%.  <i>Exceeded benchmark</i>
4.3	Students will exhibit professional behaviors in the clinical setting.	RAD 240 Final Performance Evaluation	From the Final Clinical Performance Evaluation (Professional Mannerism section), 90% of students will achieve a performance rating of 10 points or above on a 0- to 20-point scale, with 20 points awarded for "Effective Performance," 10 points awarded for "Adequate Performance, but needs improvement," and 0 points for "Inadequate Performance" when the students' clinical instructors are asked if the student has the ability to display professionalism in the clinical setting.	Twenty-two students enrolled in RAD 240 were assessed; 20 of the 22 students received an "Effective Performance" rating (20 points) and 2 received an "Adequate Performance, but needs improvement" rating (10 points) from their clinical instructors for this metric.  <i>Exceeded benchmark</i>

PROGRAM ASSESSMENT REPORT

Program Effectiveness Measures:																						
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions																		
1.	5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.	ARRT Annual Program Summary Report for WCC graduates	Five-year average pass rate of not less than 75% on the 1 <sup>st</sup> attempt of the National Radiography Certificate Examination administered by the American Registry of Radiologic Technologist (ARRT).	<table><tr><td>Year</td><td># Candidates</td><td>% Pass</td></tr><tr><td>2008</td><td>29</td><td>96.6%</td></tr><tr><td>2009</td><td>37</td><td>97.3%</td></tr><tr><td>2010</td><td>24</td><td>95.8%</td></tr><tr><td>2011</td><td>27</td><td>100%</td></tr><tr><td>2012</td><td>22</td><td>100%</td></tr></table> <p>5-year pass rate: 97.9%</p> <p><i>Exceeded benchmark</i></p>	Year	# Candidates	% Pass	2008	29	96.6%	2009	37	97.3%	2010	24	95.8%	2011	27	100%	2012	22	100%
Year	# Candidates	% Pass																				
2008	29	96.6%																				
2009	37	97.3%																				
2010	24	95.8%																				
2011	27	100%																				
2012	22	100%																				
2.	5-year average job placement rate of graduates actively seeking employment is not less than 75% within 6 months of graduation.	Graduate Survey	Five-year average job placement rate of not less than 75% within 6 months of graduation.	<table><tr><td>Year</td><td>% Employment Rate</td></tr><tr><td>2008</td><td>79%</td></tr><tr><td>2009</td><td>82%</td></tr><tr><td>2010</td><td>70%</td></tr><tr><td>2011</td><td>90%</td></tr><tr><td>2012</td><td>80%</td></tr></table> <p>5-year average job placement rate: 80%</p> <p><i>Exceeded benchmark</i></p>	Year	% Employment Rate	2008	79%	2009	82%	2010	70%	2011	90%	2012	80%						
Year	% Employment Rate																					
2008	79%																					
2009	82%																					
2010	70%																					
2011	90%																					
2012	80%																					
3.	Students admitted to the program will successfully complete the program within the 2-year sequence.	Admission/ Graduation data	70% of the students admitted and enrolled in the program will complete the program within two years. Measure will be based on program retention rates (i.e., number of students admitted to the program and the number of students who complete the program within two years.)	<p>22 (69%) of the 32 students admitted (Class of 2012) to the program completed within the 2-year sequence.</p> <p>Did not meet benchmark. Actions Taken: Admission requirements have been increased so that students are better prepared academically. A radiography course on Medical Professionals has been added to the radiography program curriculum to provide the students with a better understanding of the expectations of the clinical environment.</p>																		
4.	Graduates will indicate that the program adequately prepared them for entry-level positions.	Graduate Exit Survey	90% of graduates will express satisfaction with the program by responding to the statement, "Do you feel that the WCC Radiography Program prepared you for an entry-level position in a radiology department?" on the Graduate Exit.	<p>Of the 14 responses from the Graduate Exit Survey 100% (14) felt that the WCC Radiography Program prepared them for an entry-level position; 64% (9) strongly agree and 36% (6) student agreed.</p> <p><i>Exceeded benchmark</i></p>																		
5.	Employers will indicate that the program graduates are adequately prepared for entry-level positions.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale when responding to the statement in question 9, "If an entry-level position was open and this student was applying, you would hire this student."	<p>Fifteen of the Radiography Student Professional Skills Evaluations were returned. Thirteen of the fifteen evaluations were scored with a "4" or better (87%) for this metric.</p> <p><i>Exceeded benchmark</i></p>																		

**PROGRAM ASSESSMENT REPORT**

Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. *Please attach a summary of the data collected (as a separate document).*

See Annual Assessment Report above

3. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. *Please attach the rubric/scoring guide used for the assessment (as a separate document).*  
See Annual Assessment Report above.

4. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

**Strengths:**

The radiography students were successful in the lecture, lab, and clinical courses and there continues to be a high pass-rate on the national ARRT Radiography Certification exam. Also, despite the poor Michigan economy the majority of the 2012 graduates were able to find a job.

**Weaknesses:**

The student retention benchmark was not met. Only 69% of the students admitted to the program completed within 2-years.

### III. Changes influenced by assessment results

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.

To address the issue of student retention, a course in medical professionalism has been added to the radiography program. We will explore the possibility of changing the admission process from a passive process to a competitive process.

2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.

a. ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:

b. ☐ Program Curriculum:

- ☐ course sequencing  
☐ course deletion  
☐ course addition  
☐ changes to existing program courses (specify):  
☐ other (specify):

c. ☐ Other (specify):

3. What is the timeline for implementing these actions? Spring/Summer 2013

### IV. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools were successful in identifying the strengths and weaknesses of the radiography program.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

3. Which outcomes from Program Assessment Planning or Program Proposal form have been addressed in this report?

All ☒ Selected \_\_\_\_\_

If "All", provide the report date for the next full review: Fall 2013

If "Selected", provide the report date for remaining outcomes: \_\_\_\_\_.

## PROGRAM ASSESSMENT REPORT

## Submitted by:

Name: Connie Foster

Print/Signature

Connie Foster

Date:

1/11/13Department Chair: Connie Foster

Print/Signature

Connie Foster

Date:

1/11/13Dean: Martha Showalter

Print/Signature

Martha Showalter

Date:

1/15/13

*Please return completed form to the Office of Curriculum & Assessment, SC 257.*

## PROGRAM ASSESSMENT REPORT

## I. Background Information

## 1. Program Assessed

Program name: Radiography Program

Program code: APRAD

Division: Math, Science, and Health

Department: Allied Health Department

Type of Award: ☐ A.A. ☐ A.S. ☒ A.A.S.  
☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Completion

## 2. Semester assessment was administered (check one):

- ☒ Fall 2010  
☒ Winter 2011  
☒ Spring/Summer 2011

## 3. Assessment tool(s) used (check all that apply):

- ☐ Portfolio  
☐ Standardized test  
☒ Other external certification/licensure exam (please describe):  
ARRT Radiography Certification Exam  
☒ Graduate Survey  
☒ Employer Survey  
☒ Advisory Committee Survey  
☐ Transfer follow-up  
☐ Externally evaluated performance or exhibit  
☐ Externally evaluation of job performance (internship, co-op, placement, other)  
☒ Capstone experience (please describe): Radiation Biology & Protection paper  
☒ Other (please describe): Final Clinical Performance Evaluations & Radiography Student Professional Skills Evaluations were used for the clinical courses; Patient Assessment Skills Checkout used for RAD 222; Density Maintenance Formula Lab Activity was used for RAD 124; Patient/Co-Worker Communication & Cultural Diversity was used for RAD 110.

## 4. Have any of these tools been used before?

- ☒ Yes (if yes, identify which tool) all tools were used in the previous year  
☐ No

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.  
 The tools were not altered.

5. Indicate the number of students assessed/total number of students enrolled in the course. 26 second year radiography students and 28 first year radiography students

## 6. Describe how students were selected for the assessment.

- a. Describe your sampling method. All first and second year radiography students were included in the assessments.  
 b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? The entering (1st year) and graduating (2nd year) radiography students.

## II. Results

## 1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.

The assessment data indicated a drop in the employment rate for the program graduates which resulted in the admission numbers being reduced for 34 to 32 students.

Office of Curriculum & Assessment - RAD2010\_2011ProgAssessmentReport.docx

1 of 9

Approved by the Assessment Committee 10/10/06

logged 12/6/11 sjv

## PROGRAM ASSESSMENT REPORT

2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.

~~State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.~~

Goal 1: Students will be clinically competent.

- 1.1 Students will perform diagnostic radiographic procedures.
- 1.2 Students will operate radiographic equipment.
- 1.3 Students will demonstrate the ability to perform basic patient care assessment skills.

Goal 2: Students will communicate effectively both orally and in writing.

- 2.1 Students will use effective oral communication skills in the clinical setting.
- 2.2 Students will practice writing skills.

Goal 3: Students will critically think and effectively solve problems.

- 3.1 Students will calculate correct exposure factors.
- 3.2 Students will solve problems in the clinical setting.

Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.

- 4.1 Graduates will value the principles of lifelong learning.
- 4.2 Students will recognize the ethical and medical issues in patient care.
- 4.3 Students will exhibit professional behaviors in the clinical setting.

Goal 5: Program Effectiveness Measures

- 5.1 Graduates will pass the state licensure and/or certification for diagnostic radiography.
- 5.2 Graduates who are seeking employment will obtain a position within 6 months of graduation.
- 5.3 Students admitted to the program will successfully complete the program within the 2-year sequence.
- 5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
- 5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

## PROGRAM ASSESSMENT REPORT

Annual Assessment Report  
Radiography program 2010 – 2011 Academic Year

<b>Goal 1: Students will be clinically competent.</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
1.1	Students will perform diagnostic radiographic procedures.	Competency Maintenance section (12A and 12B) of the Final Clinical Performance Evaluation for RAD 240.	On a sampling of the Final Clinical Performance Evaluation (Competency Maintenance section) 95% of students will achieve a performance rating of 10 points or above on a 0- to 20-point scale, with 20 points awarded for "Effective Performance," 10 points awarded for "Adequate Performance, but needs improvement," and 0 points for "Inadequate Performance" when the students' clinical instructors are asked (12A) "On a regular basis the student performs radiographic procedures previously mastered from prior semesters," and (12B) "When the student is involved in these procedures the student is able to execute the examination with a minimum or no assistance."	<p>Of the 25 evaluations, all 25 students (100%) received a 20-point performance rating of "Effective Performance," for these two measures.</p> <p><i>Exceeded Benchmark: This benchmark has been met for 2011 and will be measured again at the end of the 2012 Sp/Su semester. Although we do not see any decrease in student performance compared to prior years, this is a new assessment tool for this benchmark and further observation is needed to determine this tool's validity.</i></p>
1.2	Students will operate radiographic equipment.	The Technical Aptitude section (C1 and C2) for General Radiography, Portable Radiography, and Fluoroscopic Radiography of the Final Clinical Performance Evaluation for RAD 240.	On a sampling of the Final Clinical Performance Evaluation (Technical Aptitude section) 95% of students will receive a "3" or better on a 1 to 4 Likert scale with "4" indicating the student performs at the appropriate competency level, "3" that the student's performance is satisfactory but could use some improvement, "2" that the performance is unsatisfactory and needs much improvement, and "1" indicating not at the appropriate competency level for "Setting Exposure Technique" and "X-Ray Tube and Bucky Tray Competency" in the areas of General Radiography, Portable Radiography, and Fluoroscopic Radiography.	<p>Of the 25 evaluations, all 25 students (100%) received a "3" or better. Two students received a "3" for "Setting Exposure Technique" in General Radiography, one student received a "3" for "Setting Exposure Technique" in Portable Radiography, and one student received a "3" for "Setting Exposure Technique" in Fluoroscopic Radiography; all other student scores in these areas were "4."</p> <p><i>Exceeded Benchmark: This benchmark has been met for 2011 and will be measured again at the end of the 2012 Sp/Su semester. Although we do not see any decrease in student performance compared to prior years, this is a new assessment tool for this benchmark and further observation is needed to determine this tool's validity.</i></p>
1.3	Students will demonstrate the ability to perform basic patient care assessment skills.	RAD 222 Patient Assessment Skills Check Out Form	On a sampling of the Patient Assessment Skills Check Out Form, 90% students will achieve passing grade on the venipuncture skills check out form.	<p>Of the 28 students enrolled in RAD 222, 96% (27) of the students scored between 90% - 100%; and 4% (1) failed.</p> <p><i>Exceeded Benchmark: This benchmark has been met for 2011 and will be measured again during the 2012 Winter semester.</i></p>

## PROGRAM ASSESSMENT REPORT

<b>Goal 2: Students will communicate effectively both orally and in writing.</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
2.1	Students will use effective oral communication skills in the clinical setting.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale when responding to the statement in question 1, "The student communicates with patients in a manner that you would expect/require of entry-level radiology staff member."	Of the 22 surveys returned, all 22 received a "4" or better; 20 (91%) received a "5" and 2 (9%) received a "4."  <i>Exceeded Benchmark: This benchmark has been met for 2011 and will be measured again at the end of the 2012 Sp/Su semester. We do not see any decrease in student performance compared to prior years.</i>
2.2	Students will practice writing skills.	Radiation Biology and Protection paper	90% students will achieve a score of 80% or better on the Radiation Biology and Protection paper assignment of RAD 217.	Of the 26 papers submitted for this assignment, all received an 80% or better.  <i>Met Benchmark: This benchmark has been met and will be measured again at the end of the 2011 Fall semester. We do not see any decrease in student performance compared to prior years.</i>

<b>Goal 3: Students will critically think and effectively solve problems</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
3.1	Students will calculate correct exposure factors.	RAD 124 Exposure Maintenance Formula lab assignment	Students will score 90% or higher on the Effects of Distance on Density/Density Maintenance Formula lab activity.	3% (1) of the 28 students scored greater than 100; 54% (15) of the students scored between 90 – 100%; 36% (10) students scored between 80-89%; 7% (2) students failed the assignment.  <i>Did Not Meet Benchmark: 57% (16) scored above 90% on the exercise. The homework assignments and lecture materials will be reviewed and revised in order to focus on lab exercises.</i>
3.2.	Students will solve problems in the clinical setting.	Radiography Student Professional Skills Evaluation	90% of the completed Radiography Student Professional Skills Evaluations will rate the students with a "4" or better on a 1 to 5 Likert scale with "5" indicating strongly agrees, "4" agrees, "3" neither agrees nor disagrees, "2" disagrees, and "1" strongly disagrees on question 6, "The student is able to reason through a problem, taking into account all available information, in a manner similar to an entry-level staff member when taking images."	Of the 22 surveys returned, all 22 received a "4" or better; 19 (86%) received a "5" and 3 (14%) received a "4."  <i>Met Benchmark: This benchmark has been met for 2011 and will be measured again at the end of the 2012 Sp/Su semester. We do not see any decrease in student performance compared to prior years.</i>



PROGRAM ASSESSMENT REPORT

Goal 4 : Students will exhibit professional values, attitudes, behaviors, and ethics.				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
4.1	Graduates will value the principles of life long learning.	Graduate Exit Survey	50% of second year students will indicate a desire to continue their education by responding to the statement, "Do you have plans to continue your education within the next 12 months?" on the Graduate Exit Survey.	<p>Of the 19 responses from the Graduate Exit Survey 26% (5) of the students plan to continue at a 4-year institution; 47% (9) students plan to enter an advanced imaging modality; 21% (4) students were undecided; 5% (1) expressed no interest in earning a higher degree.</p> <p><i>Exceeded Benchmark. We will continue to provide students with information about continuing their education. It was decided to explore the possibility of developing certificate programs for CT and mammography.</i></p>
4.2	Students will recognize the ethical and medical issues in patient care.	RAD 110 writing assignment, Patient/Co-Worker Communication and Cultural Diversity	90% of the students will achieve a score of 80% or better on the Patient/Co-Worker Communication and Cultural Diversity writing assignment for RAD 110.	<p>Of the 25 papers submitted for this assignment, all received an 80% or better.</p> <p><i>Met Benchmark: This benchmark has been met and will be measured again at the end of the 2011 Fall semester. This was the second year that this student outcome was assessed. We will continue to assess the patient assessment skills exercises.</i></p>
4.3	Students will exhibit professional behaviors in the clinical setting.	RAD 240 Final Performance Evaluation	From the Final Clinical Performance Evaluation (Professional Mannerism section), 90% of students will achieve a performance rating of 10 points or above on a 0- to 20-point scale, with 20 points awarded for "Effective Performance," 10 points awarded for "Adequate Performance, but needs improvement," and 0 points for "Inadequate Performance" when the students' clinical instructors are asked if the student has the ability to display professionalism in the clinical setting.	<p>Of the 25 evaluations, all 25 students achieve a performance rating of 10 or above on a 0-to-20-point scale; 24 (96%) achieved a performance rating of 20 out of 20 points.</p> <p><i>Exceeded Benchmark: This benchmark has been met for 2011 and will be measured again at the end of the 2011 Sp/Su semester. We do not see any decrease in student performance compared to prior years.</i></p>

## PROGRAM ASSESSMENT REPORT

Program Effectiveness Measures:				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
1.	Graduates will pass the state licensure and/or certification for diagnostic radiography.	ARRT Annual Summary Report for Examination in Radiography	90% of the graduates will pass the National Certificate Examination administered by the American Registry of Radiologic Technologist (ARRT) on the first attempt.	<p>All 26 graduates passed the ARRT exam on the first attempt.</p> <p><i>Exceeded benchmark. Actions Taken: No actions taken</i></p> <p><i>This was a slight increase from 2009-2010.</i></p>
2.	Graduates who are seeking employment will obtain a position within 6 months of graduation.	Graduate Survey	90% of graduates will indicate that they have acquired an entry-level position as a radiographer and/or are continuing with their education by responding to the statement, "Select the statement below that best describes your job status" on the Graduate Exit Survey	<p>Of the 19 students who responded to the Graduate Survey: 4 (21%) obtained a full-time job; 3 (16%) obtained a part-time job; 3 (16%) were currently interviewing for a part-time position; 4 (22%) were interviewing for a full-time position; 2 (11%) were planning to leave MI; 1 (5%) did not plan to seek a position as a radiographer.</p> <p>A November 2011 follow-up employment survey by the program faculty reported the following results:</p> <p>18 graduates were employed  1 graduate entered an MRI program  2 graduates were looking for employment  1 graduate is not seeking employment  4 graduates could not be located</p> <p>The November 2011 employment survey indicated that of the 20 graduates who were seeking employment 18 (90%) were employed and 2 (10) were still seeking employment.</p> <p><i>Met benchmark. Of the 20 students who were seeking employment 90% had obtained a job. Actions Taken: The employment rate of the graduated increased from the previous year, which is due to the slight increase in the Michigan economy. We will continue to discuss the employment outlook with our Advisory Committee.</i></p>

## PROGRAM ASSESSMENT REPORT

Program Effectiveness Measures:				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
3.	Students admitted to the program will successfully complete the program within the 2-year sequence.	Admission/ Graduation data	70% of the students admitted and enrolled in the program will complete the program within two years. Measure will be based on program retention rates (i.e., number of students admitted to the program and the number of students who complete the program within two years.)	26 (81%) of the 32 students admitted (Class of 2011) to the program completed within the 2-year sequence.  <i>Exceeded benchmark. This is a slight increase from last year.</i>
4.	Graduates will indicate that the program adequately prepared them for entry-level positions.	Graduate Exit Survey	90% of graduates will express satisfaction with the program by responding to the statement, "Do you feel that the WCC Radiography Program prepared you for an entry-level position in a radiology department?" on the Graduate Exit.	Of the 19 responses from the Graduate Exit Survey 100% (19) felt that the WCC Radiography Program prepared them for an entry-level position; 79% (15) strongly agree and 21% (4) student agreed.  <i>Exceeded Benchmark. Will continue to monitor.</i>
5.	Employers will indicate that the program graduates are adequately prepared for entry-level positions.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale when responding to the statement in question 9, "If an entry-level position was open and this student was applying, you would hire this student."	Of the 22 surveys returned, all 22 received a "4" or better; 20 (91%) received a "5" and 2 (9%) received a "4."  <i>Meet benchmark for 2011. This benchmark has been met for 2011, and improvement over the 2008-2009 and 2009-2010 assessments. This metric will continue to be evaluated to determine if the results of this survey are stable or improve.</i>

PROGRAM ASSESSMENT REPORT

3. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. *Please attach a summary of the data collected (as a separate document).*  
See assessment report in question 3 above.

4. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. *Please attach the rubric/scoring guide used for the assessment (as a separate document).*  
See assessment report in question 3 above.

5. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

Strengths: The students have consistently mastered the objectives of the didactic and clinical courses.

Weaknesses: There were no areas of weakness noted in the student's achievement of the learning outcomes.

### III. Changes influenced by assessment results

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.

The results of the assessment indicated that there were fewer job opportunities in general radiology. In order to provide more employment opportunities, as well as career advancement for the graduates, we will develop certificate programs for mammography and computed tomography (CT).

2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.

a. ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:

b. ☐ Program Curriculum:

☐ course sequencing

☐ course deletion

☐ course addition

☐ changes to existing program courses (specify):

☐ other (specify):

c. ☐ Other (specify):

3. What is the timeline for implementing these actions? We are tentatively planning to offer a certificate program in mammography and computed tomography in the Fall of 2012.

## PROGRAM ASSESSMENT REPORT

## IV. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools were effective in demonstrating that the students are mastering the didactic and clinical courses. The assessment tools indicated a need for and student interest in advanced imaging modalities.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

3. Which outcomes from Program Assessment Planning or Program Proposal form have been addressed in this report?

All ☒ Selected ☐

If "All", provide the report date for the next full review: November 2012.

If "Selected", provide the report date for remaining outcomes: \_\_\_\_\_.

## Submitted by:

Name: Connie FOSTER Connie Foster Date: 11/29/11  
Print/Signature  
 Department Chair: Connie FOSTER Connie Foster Date: 11/29/11  
Print/Signature  
 Dean: Martha A. Shawalter M. Shawalter Date: 12/2/11  
Print/Signature

*Please return completed form to the Office of Curriculum & Assessment, SC 247.*

## PROGRAM ASSESSMENT REPORT

## I. Background Information

## 1. Program Assessed

Program name: Radiography program

Program code: ~~143~~ **APRAD**

Division: HAT

Department: ALHD

Type of Award: ☐ A.A. ☐ A.S. ☒ A.A.S.  
☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Completion

## 2. Semester assessment was administered (check one):

- ☒ Fall 2009  
☒ Winter 2010  
☒ Spring/Summer 2010

## 3. Assessment tool(s) used (check all that apply):

- ☐ Portfolio  
☒ Standardized test  
☒ Other external certification/licensure exam (please describe): ARRT radiography certification

exam

- ☒ Graduate Survey  
☒ Employer Survey  
☐ Advisory Committee Survey  
☐ Transfer follow-up  
☐ Externally evaluated performance or exhibit  
☐ Externally evaluation of job performance (internship, co-op, placement, other)  
☒ Capstone experience (please describe): Radiation Biology & Protection paper  
☒ Other (please describe): Final clinical performance evaluation; RAD 124 and 222 lab exercises

## 4. Have any of these tools been used before?

- ☒ Yes (if yes, identify which tool); all tools except RAD 124 & 222 lab exercises  
☒ No RAD 124 & 222 lab exercises

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.

## 5. Indicate the number of students assessed/total number of students enrolled in the course. ~65 students

## 6. Describe how students were selected for the assessment.

- a. Describe your sampling method. all radiography students were assessed for each assessment tool
- b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? all first and second year radiography students

## PROGRAM ASSESSMENT REPORT

## II. Results

1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.  
No major changes were made to the program. The assessment data indicated that there was no decrease in student performance as compared to prior years.
2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.
  - Goal 1: Students will be clinically competent.
    - 1.1 Students will perform diagnostic radiographic procedures.
    - 1.2 Students will operate radiographic equipment.
    - 1.3 Students will demonstrate the ability to perform basic patient care assessment skills.
  - Goal 2: Students will communicate effectively both orally and in writing.
    - 2.1 Students will use effective oral communication skills in the clinical setting.
    - 2.2 Students will practice writing skills.
  - Goal 3: Students will critically think and effectively solve problems.
    - 3.1 Students will calculate correct exposure factors.
    - 3.2 Students will solve problems in the clinical setting.
  - Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.
    - 4.1 Graduates will value the principles of life long learning. x
    - 4.2 Students will recognize the ethical and medical issues in patient care.
    - 4.3 Students will exhibit professional behaviors in the clinical setting.
  - Goal 5: Program Effectiveness Measures
    - 5.1 Graduates will pass the state licensure and/or certification for diagnostic radiography.
    - 5.2 Graduates who are seeking employment will obtain a position within 6 months of graduation. ✓ x
    - 5.3 Students admitted to the program will successfully complete the program within the 2-year sequence
    - 5.4 Graduates will indicate that the program adequately prepared them for entry-level positions.
    - 5.5 Employers will indicate that the program graduates are adequately prepared for entry-level positions.

## PROGRAM ASSESSMENT REPORT

3. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. *Please attach a summary of the data collected.*

Goal 1: Students will be clinically competent.				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
1.1	Students will perform diagnostic radiographic procedures.	RAD Student Professional Skills Evaluation	80% of the clinical sites who returned the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale when responding to the statement "If an entry-level position was open and this student was applying, you would hire this student."	Of the 18 surveys returned, 17 received a "4" or better (94%); 10 (56%) received a "5" and 7 (39%) received a 4, and 1 (5%) received a "3". No student received a "2" or "1."  <i>Exceeded Benchmark: This benchmark has been met for 2010 and will be measured again at the end of the 2011 Sp/Su semester. We do not see any decrease in student performance compared to prior years.</i>
1.2	Students will operate radiographic equipment.	Competency Maintenance section of the Final Clinical Performance Evaluation.	On a sampling of the Final Performance Clinical Evaluation (Competency Maintenance section) 95% students will achieve a performance rating of 10 or above on a 0-to 20 point scale.	Of the 25 evaluations, all 25 students achieve a performance rating of 10 or above on a 0-to-20-point scale; 24 (96%) achieved a performance rating of 20 out of 20 points.  <i>Exceeded Benchmark: This benchmark has been met for 2010 and will be measured again at the end of the 2011 Sp/Su semester. We do not see any decrease in student performance compared to prior years.</i>
1.3	Students will demonstrate the ability to perform basic patient care assessment skills.	RAD 222 Patient Assessment Skills Check Out Form	On a sampling of the Patient Assessment Skills Check Out Form, 90% students will achieve passing grade on the venipuncture skills check out form.	Of the 41 students enrolled in RAD 222, 90% (37) of the students scored between 90% - 100%; 7% (3) students scored between 80%-89%; and 3% (1) failed.  <i>Exceeded Benchmark: This benchmark has been met for 2010 and will be measured again during the 2011 Winter semester.</i>



## PROGRAM ASSESSMENT REPORT

<b>Goal 2: Students will communicate effectively both orally and in writing.</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
2.1	Students will use effective oral communication skills in the clinical setting.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale when responding to the statement "The student communicates with patients in a manner that you would expect/require of entry-level radiology staff member."	Of the 18 surveys returned, all 18 received a "4" or better; 13 (72%) received a "5" and 5 (28%) received a "4."  <i>Exceeded Benchmark: This benchmark has been met for 2010 and will be measured again at the end of the 2011 Sp/Su semester. We do not see any decrease in student performance compared to prior years.</i>
2.2	Students will practice writing skills.	Radiation Biology and Protection paper	On a random sampling of the Radiation Biology and Protection paper assignment of RAD 217, 90% students will achieve a score of 80% or better	Of the 25 papers submitted for this assignment, all received an 80% or better.  <i>Met Benchmark: This benchmark has been met and will be measured again at the end of the 2010 Fall semester. We do not see any decrease in student performance compared to prior years.</i>

<b>Goal 3: Students will critically think and effectively solve problems</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
3.1	Students will calculate correct exposure factors.	RAD 124 Exposure Maintenance Formula lab assignment	Students will score 90% or higher on the Effects of Distance on Density/Density Maintenance Formula lab activity.	15% (5) of the 33 students scored greater than 100; 64% (21) of the students scored between 90 – 100%; 12% (4) students scored between 80-89%; 9% (3) students failed the assignment.  <i>Met Benchmark: This was the first year that this student outcome was assessed. This tool confirmed the student's understanding of exposure factors. We will continue to assess the patient assessment skills exercises</i>
3.2.	Students will solve problems in the clinical setting.	Radiography Student Professional Skills Evaluation	90% of the completed Radiography Student Professional Skills Evaluations will rate the students with a 4 or 5 on item 6, "The student is able to reason through a problem, taking into account all available information, in a manner similar to an entry-level staff member when taking images."	Of the 18 surveys returned, 17 (94%) received a "4" or better; 10 (56%) received a "5," 7 (39%) received a "4," and 1 (5%) received a "3."  <i>Met Benchmark: This benchmark has been met for 2010 and will be measured again at the end of the 2010 Sp/Su semester. We do not see any decrease in student performance compared to prior years.</i>

## PROGRAM ASSESSMENT REPORT

<b>Goal 4 : Students will exhibit professional values, attitudes, behaviors, and ethics.</b>				
	<b>Student Outcomes</b>	<b>Assessment Tool</b>	<b>Benchmark</b>	<b>Results/Actions</b>
4.1	Graduates will value the principles of life long learning.	Graduate Exit Survey	50% of second year students will indicate a desire to continue their education by responding to the statement, "Do you have plans to continue your education within the next 12 months?" on the Graduate Exit Survey.	<p>Of the 16 responses from the Graduate Exit Survey 12.5% (2) of the students plan to continue at a 4-year institution; 50% (8) students plan to enter an advanced imaging modality; 25% (4) students were undecided; 12.5% (2) expressed no interest in earning a higher degree.</p> <p><i>Exceeded Benchmark. We will continue to provide students with information about continuing their education.</i></p>
4.2	Students will recognize the ethical and medical issues in patient care.	RAD 110 writing assignment, Patient/Co-Worker Communication and Cultural Diversity	On a random sampling of the RAD 110 writing assignment, 90% of the students will achieve a score of 80% or better.	<p>Of the 28 papers submitted for this assignment, all received an 80% or better.</p> <p><i>Met Benchmark: This benchmark has been met and will be measured again at the end of the 2010 Fall semester. This was the first year that this student outcome was assessed. We will continue to assess the patient assessment skills exercises.</i></p>
4.3	Students will exhibit professional behaviors in the clinical setting.	RAD 240 Final Performance Evaluation	90% of the students will receive an "effective performance" on question 6, "Professional Mannerism – the ability to display professionalism in the clinical setting."	<p>Of the 25 evaluations, all 25 students achieve a performance rating of 10 or above on a 0-to-20-point scale; 24 (96%) achieved a performance rating of 20 out of 20 points.</p> <p><i>Exceeded Benchmark: This benchmark has been met for 2010 and will be measured again at the end of the 2010 Sp/Su semester. We do not see any decrease in student performance compared to prior years.</i></p>

## PROGRAM ASSESSMENT REPORT

Program Effectiveness Measures:				
	Student Outcomes	Assessment Tool	Benchmark	Results/Actions
1.	Graduates will pass the state licensure and/or certification for diagnostic radiography.	ARRT Annual Summary Report for Examination in Radiography	90% of the graduates will pass the National Certificate Examination administered by the American Registry of Radiologic Technologist (ARRT) on the first attempt.	<p>22 (92%) of the 24 graduates have taken the ARRT exam.  21 (96%) of the 22 students passed on the first attempt.  (The one student who failed the ARRT exam on the first attempt passed on the second attempt. To date 22 (100%) of the graduates have passed the ARRT exam.  2 (8%) of the 24 graduates have not yet taken the ARRT exam.</p> <p><i>Exceeded benchmark. Actions Taken: No actions taken  There was a slight increase from 2008-2009.</i></p>
2.	Graduates who are seeking employment will obtain a position within 6 months of graduation.	Graduate Survey	90% of graduates will indicate that they have acquired an entry-level position as a radiographer and/or are continuing with their education by responding to the statement, "Select the statement below that best describes your job status" on the Graduate Exit Survey	<p>Of the 16 students who responded to the Graduate Survey: 3 (19%) obtained a full-time job; 1 (6%) obtained a part-time job; 6 (38%) were currently interviewing for a part-time position; 2 (13%) were interviewing for a full-time position; 2 (13%) were planning to leave MI; 2 (13%) did not plan to seek a position as a radiographer.</p> <p>A November 2010 survey of the 22 graduates who passed the ARRT exam found:</p> <p>2 students were not seeking employment. Of the remaining 20 students:</p> <p>14 (70%) were employed  2 (20%) were looking for employment  2 (10%) could not be located</p> <p><i>Did not exceed benchmark. Actions Taken: Reduce the number of students admitted to the program from 34 to 32 students. The drop in employment is due to the economical problems in Michigan. We will continue to discuss the employment outlook with our Advisory Committee.</i></p>
3.	Students admitted to the program will successfully complete the program within the 2-year sequence.	Admission/ Graduation data	70% of the students admitted and enrolled in the program will complete the program within two years. Measure will be based on program retention rates (i.e., number of students admitted to the program and the number of students who complete the program within two years.)	<p>24 (75%) of the 32 students admitted (Class of 2010) to the program completed within the 2-year sequence.</p> <p><i>Exceeded benchmark. However, this was a decrease in the completion rate from last year (81%). Retrospective analysis of student completion rates showed an increase in student withdrawal because of financial reasons. This is most likely due to the Michigan economy.</i></p>

PROGRAM ASSESSMENT REPORT

4.	Graduates will indicate that the program adequately prepared them for entry-level positions.	Graduate Exit Survey	90% of graduates will express satisfaction with the program by responding to the statement, "Do you feel that the WCC Radiography Program prepared you for an entry-level position in a radiology department?" on the Graduate Exit.	Of the 16 responses from the Graduate Exit Survey 100% (16) felt that the WCC Radiography Program prepared them for an entry-level position; 93.75% (15) strongly agree and 6.25% (1) student agreed.  <i>Exceeded Benchmark. Will continue to monitor.</i>
5.	Employers will indicate that the program graduates are adequately prepared for entry-level positions.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale when responding to the statement "If an entry-level position was open and this student was applying, you would hire this student."	2010: Of the 18 surveys returned, 16 (89%) received a "4" or better; 9 (50%) received a "5," 7 (40%) received a "4," 1 (5%) received a "3," and 1 (5%) received a "2."  <i>Meet benchmark for 2010. This benchmark has been met for 2010, and improvement over the 2008-2009 assessment. This metric will continue to be evaluated to determine if the results of this survey are stable or improve.</i>

4. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. *Please attach the rubric/scoring guide used for the assessment.*  
see chart above in question 3
5. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.  
Strengths: We did not see any decrease in student performance compared to prior years.  
  
Weaknesses: Although we did not find any weaknesses, Two areas of concern were raised. The first concern was the completion rate and the second was the job placement rates.

### III. Changes influenced by assessment results

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.  
The Michigan economy is still in a state of flux, so we will reduce the student admission from 34 to 32. We will include a discussion on barriers to completing the radiography program as an agenda item for the next new student orientation.
2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.
- ☐ Outcomes/assessments from Program Assessment Planning or Program Proposal form:
  - ☐ Program Curriculum:
    - ☐ course sequencing
    - ☐ course deletion
    - ☐ course addition
    - ☐ changes to existing program courses (specify):
    - ☐ other (specify):
  - ☐ Other (specify):
3. What is the timeline for implementing these actions?

## PROGRAM ASSESSMENT REPORT

## IV. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The assessment tools were effective in measuring student achievement of learning outcomes.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

3. Which outcomes from Program Assessment Planning or Program Proposal form have been addressed in this report?

All X Selected \_\_\_\_\_

If "All", provide the report date for the next full review: Fall 2012

If "Selected", provide the report date for remaining outcomes: \_\_\_\_\_

## Submitted by:

Name: Connie Foster Date: November 23, 2010

Print/Signature

Department Chair: Connie Foster Date: 11/23/10

Print/Signature

Dean: [Signature] Date: 11/23/10

Print/Signature

*Please return completed form to the Office of Curriculum & Assessment, SC 247.*

## PROGRAM ASSESSMENT REPORT

WASHTENAW COMMUNITY COLLEGE

### I. Background Information

#### 1. Program Assessed

Program name: Radiography

Program code: ~~RAD~~ APRAD

Division: HAT

Department: Allied Health Department

Type of Award: ☐ A.A. ☐ A.S. ☒ A.A.S. ☐ Post-Assoc. Cert. ☐ Cert. of Completion  
☐ Cert.

#### 2. Semester assessment was administered (check one):

☒ Fall 2007

☒ Winter 2008

☒ Spring/Summer 2008

#### 3. Assessment tool(s) used (check all that apply):

☐ Portfolio

☒ Standardized test

☒ Other external certification/licensure exam (please describe): \_\_\_\_\_

☒ Graduate Survey

☐ Employer Survey

☐ Advisory Committee Survey

☐ Transfer follow-up

☐ Externally evaluated performance or exhibit

☐ Externally evaluation of job performance (internship, co-op, placement, other)

☐ Capstone experience (please describe):

☒ Other (please describe): Clinical performance evaluations; Professional Skills evaluations; course evaluations;

#### 4. Have any of these tools been used before?

☒ Yes (if yes, identify which tool)

☐ No

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.  
no

5. Indicate the number of students assessed/total number of students enrolled in the course. 32 first year radiography students; 37 second year radiography students

#### 6. Describe how students were selected for the assessment.

a. Describe your sampling method. all program students

b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? all program students

### II. Results

1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.  
see attached report

2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.  
see attached

**PROGRAM ASSESSMENT REPORT**

3. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected.***  
see attached

4. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment.***  
see attached

5. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

Strengths: Radiograph program students are successfully passing the ARRT national board exam and obtaining jobs after graduation.

Weaknesses:

**III. Changes influenced by assessment results**

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.

2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.

a. ☒ Outcomes/assessments from Program Assessment Planning or Program Proposal form: A patient assesement skill check out form will be developed for RAD 222 to track patient assesement skills..

b. ☐ Program Curriculum:

☐ course sequencing

☐ course deletion

☐ course addition

☒ changes to existing program courses (specify): see attached report

☐ other (specify):

c. ☐ Other (specify):

3. What is the timeline for implementing these actions? changes will be made starting in the winer 2009 semester.

**IV. Future plans**

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

The tools were effective in confirming that the radiography students are passing the ARRT national board exam and obtaining jobs.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

3. Which outcomes from Program Assessment Planning or Program Proposal form have been addressed in this report?

All x Selected \_\_\_\_\_

If "All", provide the report date for the next full review: \_\_\_\_\_ Winter 2009\_\_\_\_\_.

If "Selected", provide the report date for remaining outcomes: \_\_\_\_\_.

PROGRAM ASSESSMENT REPORT

Submitted by:

Name: Connie Foster Connie Foster Date: 1/9/09  
Print/Signature  
 Department Chair: Connie Foster Connie Foster Date: 1/9/09  
Print/Signature  
 Dean: J. P. W. J. P. W. Date: 1/12/09  
Print/Signature

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**WASHTENAW COMMUNITY COLLEGE**  
**PROGRAM ASSESSMENT REPORT: 2006 –2007 RADIOGRAPHY PROGRAM**

**I. Background Information**

1. Program Assessed

Program name: Radiography Program

Program code: ~~RAD~~ **APRAD**

Division: HAT

Department: ALHD

Type of Award: ☐ A.A. ☐ A.S. ☒ A.A.S.  
☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Completion

2. Semester assessment was administered (check one):

- ☐ Fall 2006  
☐ Winter 2007  
☐ Spring/Summer 2007

3. Assessment tool(s) used (check all that apply):

- ☐ Portfolio  
☒ Standardized test  
☒ Other external certification/licensure exam (please describe): ARRT Radiography

Exam

- ☒ Graduate Survey  
☒ Employer Survey  
☐ Advisory Committee Survey  
☐ Transfer follow-up  
☐ Externally evaluated performance or exhibit  
☐ Externally evaluation of job performance (internship, co-op, placement, other)  
☐ Capstone experience (please describe):  
☒ Other (please describe): See attached 2006-2007 Radiography Assessment Report

4. Have any of these tools been used before?

- ☒ Yes (if yes, identify which tool)  
☐ No

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.  
NO

5. Indicate the number of students assessed/total number of students enrolled in the course.

6. Describe how students were selected for the assessment.

- a. Describe your sampling method. random sample of students were assessed.  
b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? continuing radiography students and graduates

**II. Results**

1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.
2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.  
see attached 2006-2007 Radiography Assessment Report

**WASHTENAW COMMUNITY COLLEGE**  
**PROGRAM ASSESSMENT REPORT: 2006 -2007 RADIOGRAPHY PROGRAM**

3. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected.***  
see attached 2006-2007 Radiography Assessment Report

4. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment.***  
see attached 2006 - 2007 Radiography Assessment Report

5. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

Strengths: Overall, the radiography program has exceeded it's established benchmarks. The students are acquiring the knowledge and skills to become competent radiographers. The local healthcare facilities continue to employ our graduates.

Weaknesses: A few of Some of the students continue to score low on the standardized exams. However, the data shows that they get progressively better after each test.

### **III. Changes influenced by assessment results**

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.

The PAS standardized exams will be a requirement for RAD 217.

2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.

a. ☒ Outcomes/assessments from Program Assessment Planning or Program Proposal form: A new assessment tool will be developed to measure the outcomes 3 - 6 under goal 2.

b. ☐ Program Curriculum:

☐ course sequencing

☐ course deletion

☐ course addition

☒ changes to existing program courses (specify): RAD 218 final exam questions will be

revised

☐ other (specify):

c. ☐ Other (specify):

3. What is the timeline for implementing these actions? Changes will be implemented during the 2007 - 2008 academic year.

### **IV. Future plans**

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

Overall, the assessment tools were effective in measuring the effectiveness of the radiography program. The results of the 2006 - 2007 assessment shows that the radiography students are acquiring the knowledge and skills to be competent radiographers.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments. The Final Clinical Performance Evaluation did not provide any discriminating feedback. A Clinical Instructor Survey will be developed for next year.

3. Which outcomes from Program Assessment Planning or Program Proposal form have been addressed in this report?

All ☒ Selected \_\_\_\_\_

WASHTENAW COMMUNITY COLLEGE  
PROGRAM ASSESSMENT REPORT: 2006 -2007 RADIOGRAPHY PROGRAM

If "All", provide the report date for the next full review: see attached 2006-2007 Radiography Assessment Report.

If "Selected", provide the report date for remaining outcomes: \_\_\_\_\_.

Submitted by:

Name: Connie Foster *Connie Foster* Date: 11/21/07  
Print/Signature  
Department Chair: Connie Foster *Connie Foster* Date: 11/21/07  
Print/Signature  
Dean: [Signature] Date: 11/26/07  
Print/Signature

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*logged 11/26/07 sjb*