

**Course Assessment Report**  
**Washtenaw Community College**

| Discipline                           | Course Number | Title  |
|--------------------------------------|---------------|--|
| Radiography                          | 123           | RAD 123 09/04/2018-<br>Radiographic Positioning II |
| Division                             | Department    | Faculty Preparer                                   |
| Health Sciences                      | Allied Health | Jim Skufis   |
| Date of Last Filed Assessment Report |               |  |

**I. Assessment Results per Student Learning Outcome**

Outcome 1: Perform radiographic procedures of the lower extremity, vertebral column and bony thorax in accordance with current standards.

- Assessment Plan
  - Assessment Tool: departmental RAD 123 practical exam
  - Assessment Date: Winter 2012
  - Course section(s)/other population: all students
  - Number students to be assessed: ~35
  - How the assessment will be scored: A rubric for the RAD 123 practical exam will be used.
  - Standard of success to be used for this assessment: 90% of the students will achieve a 3 (good) or above rating
  - Who will score and analyze the data: A Radiography Program faculty member.

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                          |                              |

2. Provide assessment sample size data in the table below.

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 54                     | 25                     |

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

Enrollment was duplicated because of the lecture/lab enrollment. Only 27 students were ever registered. Two withdrew or stopped coming. All students who completed the assessment activities were assessed.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

All sections are taught on campus.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

Rather than using a departmental exam, we used students' practical lab exercises. Each radiographic exam of different areas (foot, ankle, knee, etc.) was scored using a departmentally-developed rubric. Each lab exercise was scored on the three outcomes, procedures, analysis of radiographs and ALARA principles (radiation protection). The scores were calculated based on the point scale and an average for each exam area was calculated by outcome.

The scale for Radiographic procedures was 0 - 3.00. The average across all exam areas was 2.97.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

The scale for Radiographic procedures was 0 - 3.00. The average across all exam areas was 2.97. Students scored 3.0 in 6 of the 14 areas. The lowest average was 2.92, which students scored in 3 of 14 areas.

In addition, each outcome was analyzed for each exam area with an average, median, mode and standard deviation calculated. This assured us that all students were performing up to standards.

The standard of success was originally defined to be 90% of the students will achieve a 3 (good) or above rating. However, that rubric was no longer available and we do not know what the overall scale was. Therefore, we've chosen to look at

the data differently. We have chosen to set the standard of success at an overall average or 90% or higher.

Because data was not easily available on an individual basis that could be converted to cover all exam areas, we chose to use an average. Based on the average score of 2.97, students scored 99% on performing radiographic procedures. Therefore, students met our newly defined standard of success.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Based on the results of this assessment of students' ability to perform radiographic procedures, it is clear that they can indeed do these procedures. The lowest score for any of the exams (ankle, calcaneus, and L-Spine) was still 97%, well above the 90% score initially set as the benchmark.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Although the benchmark for success was met, this is the first time I have assessed this course and used this tool. I will need more assessment cycles before deciding to change anything.

Outcome 2: Critically analyze radiographs of the lower extremity, vertebral column and bony thorax for patient positioning, exposure technique and image processing errors.

- Assessment Plan
    - Assessment Tool: departmental RAD 123 practical exam
    - Assessment Date: Winter 2012
    - Course section(s)/other population: all students
    - Number students to be assessed: ~35
    - How the assessment will be scored: A rubric for the RAD 123 practical exam will be used.
    - Standard of success to be used for this assessment: 90% of the students will achieve a 3 (good) or above rating
    - Who will score and analyze the data: A Radiography Program faculty member.
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                          |                              |

2. Provide assessment sample size data in the table below.

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 54                     | 25                     |

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

Enrollment was duplicated because of the lecture/lab enrollment. Only 27 students were ever registered. Two withdrew or stopped coming. All students who completed the assessment activities were assessed.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

All sections are taught on campus.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

Rather than using a departmental exam, we used students' practical lab exercises. Each radiographic exam of different areas (foot, ankle, knee, etc.) was scored using a departmentally-developed rubric. Each exercise was scored on the three outcomes, procedures, analysis of radiographs and ALARA principles (radiation protection). The scores were calculated based on the point scale and an average for each exam area was calculated by outcome.

The scale for analysis of radiographs was 0 - 5.00. The average across all exam areas was 4.91.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

The scale for analysis of radiographs was 0 - 5.00. The average across all exam areas was 4.91. Students scored 5.0 in 6 of the 14 areas. The lowest average was 4.71, which students scored in only 1 of 14 areas.

In addition, each outcome was analyzed for each exam area with an average, median, mode and standard deviation calculated. This assured us that all students were performing up to standards.

Because data was not easily available on an individual basis that could be converted to cover all exam areas, we chose to use an average. Based on the average score of 4.91, students scored 98% for analysis of radiographs.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Based on the results of this assessment of students' ability to perform critically analyze radiographs, it is clear that they can indeed do this task. The lowest score for any of the exams (foot) was still 94%, well above the 90% score initially set as the benchmark.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Although the benchmark for success was met, this is the first time I have assessed this course and used this tool. I will need more assessment cycles before deciding to change anything.

Outcome 3: Apply the principles of ALARA when obtaining diagnostic radiographs of the lower extremity, vertebral column and bony thorax.

- Assessment Plan
    - Assessment Tool: departmental RAD 123 practical exam
    - Assessment Date: Winter 2012
    - Course section(s)/other population: all students
    - Number students to be assessed: ~35
    - How the assessment will be scored: A rubric for the RAD 123 practical exam will be used.
    - Standard of success to be used for this assessment: 90% of the students will achieve a 3 (good) or above rating
    - Who will score and analyze the data: A Radiography Program faculty member.
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                          |                              |

2. Provide assessment sample size data in the table below.

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 54                     | 25                     |

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

Enrollment was duplicated because of the lecture/lab enrollment. Only 27 students were ever registered. Two withdrew or stopped coming. All students who completed the assessment activities were assessed.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

All sections are taught on campus.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

Rather than using a departmental exam, we used students' practical lab exercises. Each radiographic exam of different areas (foot, ankle, knee, etc.) was scored using a departmentally-developed rubric. Each exercise was scored on the three outcomes, procedures, analysis of radiographs and ALARA principles (radiation protection). The scores were calculated based on the point scale and an average for each exam area was calculated by outcome.

The scale for radiation protection was 0 - 1.00. The average across all exam areas was 0.99.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

The scale for radiation protection was 0 - 1.00. The average across all exam areas was 0.99. Students scored 1.0 in 6 of the 14 areas. The lowest average was 0.94, which students scored in only 1 of 14 areas.

In addition, each outcome was analyzed for each exam area with an average, median, mode and standard deviation calculated. This assured us that all students were performing up to standards.

Because data was not easily available on an individual basis that could be converted to cover all exam areas, we chose to use an average. Based on the average score of 0.99, students scored 99% on performing radiographic procedures.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Based on the results of this assessment of students' ability to apply ALARA principles (radiation protection), it is clear that they can indeed do this task. The lowest score for any of the exams (L-Spine) was still 94%, well above the 90% score initially set as the benchmark.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Although the benchmark for success was met, this is the first time I have assessed this course and used this tool. I will need more assessment cycles before deciding to change anything.

Outcome 4: Communicate clearly, effectively and in a therapeutic manner when producing diagnostic radiographs of the lower extremity, vertebral column and bony thorax.

- Assessment Plan
  - Assessment Tool: departmental RAD 123 practical exam
  - Assessment Date: Winter 2012
  - Course section(s)/other population: all students
  - Number students to be assessed: ~35
  - How the assessment will be scored: A rubric for the RAD 123 practical exam will be used.
  - Standard of success to be used for this assessment: 90% of the students will achieve a 3 (good) or above rating
  - Who will score and analyze the data: A Radiography Program faculty member.

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                          |                              |

2. Provide assessment sample size data in the table below.

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3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

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4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

All sections are taught on campus.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

Students do not communicate with patients as part of this course. This outcome is better evaluated in a clinical course, so it was not assessed in this assessment.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: No

Students do not communicate with patients as part of this course. This outcome is better evaluated in a clinical course, so it was not assessed in this assessment.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students do not communicate with patients as part of this course. This outcome is better evaluated in a clinical course, so it was not assessed in this assessment.

- Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Students do not communicate with patients as part of this course. This outcome is better evaluated in a clinical course, so it was not assessed in this assessment.

## II. Course Summary and Action Plans Based on Assessment Results

- Describe your overall impression of how this course is meeting the needs of students. Did the assessment process bring to light anything about student achievement of learning outcomes that surprised you?

RAD 123 is meeting the students' needs by helping them master the skills of performing radiographs of the lower extremities, vertebral column, and boney thorax; critically analyzing those images, and practicing radiation safety in accordance with accepted guidelines. Communication with patients is not well taught in this course since the students are performing exams on radiography simulation mannequins which contain human bones. This skill is taught and assessed in Methods of Patient Care (RAD 101) and assessed in clinical courses such as RAD 217 and RAD 225. What this assessment brought to light was the need to update the master syllabus for this course.

- Describe when and how this information, including the action plan, was or will be shared with Departmental Faculty.

The results of this assessment will be shared with program faculty during regular faculty meetings and with our program's advisory committee during advisory committee meetings.

- Intended Change(s)

| Intended Change  | Description of the change   | Rationale  | Implementation Date |
|------------------|---|--|---------------------|
| Outcome Language | Update outcomes based on course adjustments over time.                            | Outcomes no longer align well with the course content                        | 2019                |
| Assessment Tool  | Update assessment tool and standard of success based on revision to the outcomes. | Improve alignment with outcomes and collect more meaningful assessment data. | 2019                |

4. Is there anything that you would like to mention that was not already captured?

On to the Master Syllabus

### III. Attached Files

[.zip folder of assessment data for RAD 123](#)

|                                    |                  |                         |
|------------------------------------|------------------|-------------------------|
| <b>Faculty/Preparer:</b>           | Jim Skufis       | <b>Date:</b> 09/18/2018 |
| <b>Department Chair:</b>           | Kristina Sprague | <b>Date:</b> 09/19/2018 |
| <b>Dean:</b>                       | Valerie Greaves  | <b>Date:</b> 09/28/2018 |
| <b>Assessment Committee Chair:</b> | Shawn Deron      | <b>Date:</b> 10/16/2018 |

**COURSE ASSESSMENT REPORT**

**Background Information**

1. Course assessed:  
Course Discipline Code and Number: RAD 123  
Course Title: Radiographic Positioning II  
Division/Department Codes: ALHD: Radiography Program
  
2. Semester assessment was conducted (check one):  
 Fall 20\_\_  
 Winter 20\_\_  
 Spring/Summer 20\_\_
  
3. Assessment tool(s) used: check all that apply.  
 Portfolio  
 Standardized test  
 Other external certification/licensure exam (specify): ARRT certification exam  
 Survey  
 Prompt  
 Departmental exam  
 Capstone experience (specify):  
 Other (specify):
  
4. Have these tools been used before?  
 Yes  
 No

If yes, have the tools 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.  
28 students were assessed and 38 students were enrolled in RAD 123.
  
6. Describe how students were selected for the assessment.  
To date only 28 of the 38 students have taken the ARRT exam.

**Results**

1. Briefly describe the changes that were implemented in the course as a result of the previous assessment.  
No significant changes were made to RAD 123 as a result of the previous assessment. Only minor changes were made to the powerpoint presentations and exam questions in an attempt to improve comprehension of the radiographic protocols and procedures presented in RAD 123.
  
2. State each outcome from the master syllabus that was assessed.  
85% of the students will pass the ARRT exam.
  
3. Briefly describe assessment results based on data collected during the course assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. Please attach a summary of the data collected.
  
4. Students obtained a scaled score of 8.2 on the Radiographic Procedures section of the ARRT exam which corresponds to the course material covered in RAD 123.
  
5. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success.  
89% of the students passed the ARRT exam on the first attempt.  
The means scaled score for the Radiographic Procedures section was a mean scaled score of 8.2.

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

**COURSE ASSESSMENT REPORT**

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

Strengths: Students who passed the national ARRT certification exam have demonstrated that they can think critically and can apply the theories and practices that they learned in the classroom. The means scaled scored of 8.2 on the radiographic procedures section of the ARRT exam means that the students are mastering the radiographic protocols and procedures that are taught in RAD 123.

Weaknesses: The benchmark was met.

**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, along with a timeline for these actions.

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

Master syllabus

Change/rationale:

Curriculum

Change/rationale:

Course syllabus

Change/rationale:

Course assignments

Change/rationale: Minor modifications have been made to course assignments to clarify the course objectives in RAD 123 and attempt to improve student success.

Course materials (check all that apply)

Textbook

Handouts

Other:

Change/rationale:

Instructional methods

Change/rationale:

Other:

Change/rationale:

**Future plans**

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

The feedback from the national ARRT certification exam is an extremely valuable source for information on student success. Poor performance in a particular area of the ARRT certification exam indicates the need for corrective action in a required radiography program course. The results of the ARRT certification exam scores demonstrates that the radiography program curriculum is in compliance with the national standards for radiologic technologists across the country.

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

COURSE ASSESSMENT REPORT

Submitted by:

Name: Connie Foster

Date: 6/28/06

Department Chair: Connie Foster

Date: 6/28/06

Dean: [Signature]

Date: 6/29/06