

Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Magnetic Resonance Imaging	120	MRI 120 07/31/2019-MRI Procedures I
Division	Department	Faculty Preparer
Health Sciences	Allied Health	Lori Miracle
Date of Last Filed Assessment Report		

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

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

No

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

3.

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

5.

II. Assessment Results per Student Learning Outcome

Outcome 1: List the pulse sequences most commonly used for MRI scanning protocols of the central nervous and musculoskeletal systems.

- Assessment Plan
 - Assessment Tool: Department final exam
 - Assessment Date: Fall 2018
 - Course section(s)/other population: All sections
 - Number students to be assessed: All students
 - How the assessment will be scored: answer key
 - Standard of success to be used for this assessment: 80% of the students will score 70% or higher on the related outcome questions.

- Who will score and analyze the data: Departmental Faculty

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)
2017, 2016, 2018		

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

# of students enrolled	# of students assessed
23	21

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.

One student was dismissed from the program for behavioral issues at the clinical site prior to completion of the course. One student was dismissed from the program due to MRI safety issues and failure to comply with site policies before completing the course.

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 students that completed the course were included in the assessment.

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

A multiple choice/true/false final exam was given with one point awarded for each correct answer. The final exam was weighted 20 percent of the overall final grade.

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 standard of success states that 80% of the students will score 70% or higher on each related outcome question. To more accurately reflect students' overall understanding of the area, we used the standard of success: 80% of students will score correctly on 70% of the outcome-related questions. Seven common outcome-related questions between 2016-2018 were used to assess this outcome.

80% of the students scored 6/7 (85.7%) questions correctly, meeting the standard of success.

In the future, the standard of success will be updated to read, "70% of students will score 70% or higher on the final exam."

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

The average grade for the students for 2016, 2017, and 2018 was 86.7%, 98.2%, and 92.8% respectively. Based on the average final exam score of 92.6%, well above the ARRT pass standard of 76%, the students' strong results indicate their understanding of the material.

The ARRT looks at average scores on their exam and presents results in terms of average scores per section, not per question.

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.

Since students met the standard of success, our plan for continuous improvement includes adopting the new ARRT requirements for MRI technologists. This includes instructing students on commonly used and newly developed pulse sequences for scanning the central nervous and musculoskeletal systems.

We will evaluate the one question from this outcome which had lower results, to investigate whether we should add instruction on this area or revise the question itself.

Outcome 2: Recognize normal and abnormal anatomy on MRI scans of the central nervous and musculoskeletal systems.

- Assessment Plan
 - Assessment Tool: Department final exam
 - Assessment Date: Fall 2018
 - Course section(s)/other population: All sections
 - Number students to be assessed: All students
 - How the assessment will be scored: answer key
 - Standard of success to be used for this assessment: 80% of the students will score 70% or higher on the related outcome questions.

- Who will score and analyze the data: Departmental Faculty

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, 2017, 2016		

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

# of students enrolled	# of students assessed
23	21

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.

One student was dismissed from the program for behavioral issues at the clinical site prior to completion of this course. One student was dismissed from the program due to MRI safety issues at the clinical site and failure to comply with site policies before completing the course.

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 students who completed this course were included in the assessment.

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

A multiple choice/true/false exam was given with one point awarded for each correct answer. The final exam was weighted twenty percent of the overall final grade.

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

As there were few questions in common between 2016, compared to 2017 and 2018, 2016 was analyzed separately.

The standard of success states that 80% of the students will score 70% or higher on the related outcome questions. To more accurately reflect students' overall

understanding of the area, we used the standard of success: 80% of students will score correctly on 70% of the outcome-related questions.

For 2016, 80% of students scored correctly on 6/7 (85.7%) of the questions used for assessment, meeting the standard of success. For 2017-2018, 80% of students scored correctly on 13/13 (100%) of the questions used for assessment.

In the future, the standard of success will be updated to read, "70% of students will score 70% or higher on the final exam."

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

The average grade for the students for 2016, 2017, and 2018 was 86.7%, 98.2%, and 92.8% respectively. Based on the average final exam score of 92.6%, well above the ARRT pass standard of 76%, the students' strong results indicate their understanding of the material.

The ARRT looks at average scores on their exam and presents results in terms of average scores per section, not per question.

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.

Since students met the standard of success, our plan for continuous improvement includes adopting the new ARRT requirements for MRI technologists.

We will evaluate the one question from this outcome which had lower results, to investigate whether we should add instruction on this area or revise the question itself.

Outcome 3: Determine the best coil selection, scan planes, and imaging options used for the central nervous and musculoskeletal systems.

- Assessment Plan
 - Assessment Tool: Department final exam
 - Assessment Date: Fall 2018
 - Course section(s)/other population: All sections
 - Number students to be assessed: All students
 - How the assessment will be scored: answer key

- Standard of success to be used for this assessment: 80% of the students will score 70% or higher on the related outcome questions.
- Who will score and analyze the data: Departmental Faculty

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, 2017, 2016		

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

# of students enrolled	# of students assessed
23	21

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.

One student was dismissed from the program for behavioral issues at the clinical site prior to completion of this course. One student was dismissed due to MRI safety issues at the clinical site and failure to comply with site policies before completing the course.

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 students who completed this course were included in the assessment.

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

A multiple choice/true/false final exam was given with one point awarded for each correct answer. The final exam was weighted twenty percent of the overall final grade.

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 standard of success states that 80% of the students will score 70% or higher on the related outcome questions. To more accurately reflect students' overall understanding of the area, we used the standard of success: 80% of students will

score correctly on 70% of the outcome-related questions. 11 common outcome-related questions between 2016-2018 were used to assess this outcome.

80% of the students scored 9/11 (81.8%) questions correctly, meeting the standard of success.

In the future, the standard of success will be updated to read, "70% of students will score 70% or higher on the final exam."

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

The average grade for the students for 2016, 2017, and 2018 was 86.7%, 98.2%, and 92.8% respectively. Based on the average final exam score of 92.5%, the students' strong results indicate their understanding of the material.

The ARRT looks at average scores on their exam and presents results in terms of average scores per section, not per question.

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.

Since students met the standard of success, our plan for continuous improvement includes adopting the new ARRT requirements for MRI technologists.

We will evaluate the two questions from this outcome which had lower results, to investigate whether we should add instruction on these areas or revise the questions themselves.

III. Course Summary and Intended Changes Based on Assessment Results

1. Based on the previous report's Intended Change(s) identified in Section I above, please discuss how effective the changes were in improving student learning.

No previous assessment completed.

2. 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?

This course is meeting the needs of the student requirements for entry level students. It is important to note that continuous improvement plans will further assist in student learning.

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

Department faculty will be given a copy of this report and an opportunity to comment on the contents. The process of meeting at the end of the year for all MRI teaching staff to review and make recommendations for changes to the program will continue.

- 4.

Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Assessment Tool	We'd like to incorporate the ARRT exam results as an assessment tool for any MRI course that has a corresponding section(s) on the ARRT exam.	It is important that the standard of success relates to current ranking by the American Registry of Radiologic Technologists. The ARRT exam results indicate that students scored an average of 8.75/10 on this exam for the areas corresponding to this course (Neuro and Musculoskeletal). See attached files.	2020
Assessment Tool	The assessment tool will be updated from "departmental final exam" to "final exam".	To ensure consistency in data collection for future assessment.	2020
Other: Standard of success	Standard of success to be used for this assessment: 80% of the students will score 70% or higher on each related outcome question should be changed to read "70% of	The standard of success should reflect students' performance on the topic as a whole, not the class performance on each individual question. It is	2020

	students will score 70% or higher on the final exam".	important for these tools and standards of success to reflect ARRT standards and rankings.	
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5. Is there anything that you would like to mention that was not already captured?

6.

III. Attached Files

- [MRI 120 2018 Goal 2](#)
- [MRI 120 2016 Goal 2](#)
- [MRI 120 2017 Goal 2](#)
- [MRI 120 2016 Goal 3](#)
- [MRI 120 2017 Goal 3](#)
- [MRI 120 2018 Goal 3](#)
- [MRI 120 2016-2018 Goal 1](#)
- [MRI 120 2016 Course Performance](#)
- [MRI 120 2017 Course Performance](#)
- [MRI 120 2018 Course Performance](#)
- [MRI 120 2016-2018 Assessment Data](#)
- [ARRT Exam Results](#)

Faculty/Preparer: Lori Miracle **Date:** 08/27/2019
Department Chair: Kristina Sprague **Date:** 08/29/2019
Dean: Valerie Greaves **Date:** 09/09/2019
Assessment Committee Chair: Shawn Deron **Date:** 02/24/2020