

Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Magnetic Resonance Imaging	140	MRI 140 07/31/2019-MRI Procedures II
Division	Department	Faculty Preparer
Health Sciences	Allied Health	Catherine Blaesing
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 of the chest, abdomen and pelvis.

- Assessment Plan
 - Assessment Tool: Department final exam
 - Assessment Date: Winter 2019
 - 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 outcome related 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)
	2019, 2018	

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

# of students enrolled	# of students assessed
17	16

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 enrolled in the class but never attended due to family care issues. Multiple attempts to have him drop the class failed.

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 attending this class in 2018 and 2019 were included in this assessment. Data from 2017 is missing in Blackboard and cannot be retrieved. In 2016, a different instructor taught this class, and data is not available for review.

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

A 44-question multiple-choice/true-false final exam was given, with two points being awarded for each correct answer. The weighting for this exam was 40 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% or more of the outcome-related questions. Six questions were identified for both 2018 and 2019 related to this outcome.

80% of the students scored 6/6 (100%) questions correctly for both semesters, 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.

For 2018, the average score for this outcome was 97.7%, and for 2019, the average score for this outcome was 100%, well above the ARRT pass rate at 76%.

The outcome achieved by students in both assessment years was high and exceeded the standard of success for this outcome. This indicates that students have a good understanding of the pulse sequences most used and how they are applied in Magnetic Resonance imaging of the chest, abdomen and pelvis.

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.

Plans for continuous improvement will be to add questions related to how pulse sequences are applied in Magnetic Resonance Imaging on the final exam.

Outcome 2: Recognize normal and abnormal anatomy on magnetic resonance (MR) images of the chest, abdomen and pelvis.

- Assessment Plan
 - Assessment Tool: Department final exam
 - Assessment Date: Winter 2019
 - 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 outcome related 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)
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	2019, 2018	
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2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
17	16

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 enrolled in this class but never attended due to family care issues. Multiple attempts to have the student drop the class failed.

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 attending this class in 2018 and 2019 were included in this assessment. Data from 2017 is missing in Blackboard and cannot be retrieved. In 2016, a different instructor taught this class, and data is not available for review.

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

A 44-question multiple-choice/true-false final exam was administered with one point being awarded for each correct answer. The weighting for this exam was 40% 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 outcome-related 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% or more of the outcome-related questions. 23 questions related to this outcome were identified for 2018, and 18 questions related to this outcome were identified for 2019.

80% of the students scored 22/23 (95.6%) questions correctly for 2018, and 80% of the students scored 16/18 (88.9%) questions correctly for 2019, both semesters 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.

For 2018, the average score for this outcome was 100%, and for 2019, the average score for this outcome was 97.6%, well above the ARRT standard to pass, at 76%. All students enrolled in 2018 and 2019 achieved the projected outcome for this goal.

Based on the assessment results and student achievement, students have a good understanding of normal and abnormal anatomy as presented on Magnetic Resonance images of the chest, abdomen and pelvis.

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.

Continuous improvement plans include adding questions related to identification of normal and abnormal anatomy of chest, abdomen and pelvis Magnetic Resonance images.

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

Outcome 3: Determine the best coil selection, scan planes, and imaging options for Magnetic Resonance Imaging (MRI) procedures of the chest, abdomen and pelvis.

- Assessment Plan
 - Assessment Tool: Department final exam
 - Assessment Date: Winter 2019
 - 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 outcome related 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)
	2019, 2018	

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

# of students enrolled	# of students assessed
17	16

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 enrolled in this course but never attended due to family care issues. Multiple attempts to have the student drop this course failed.

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 attending this class in 2018 and 2019 were included in this assessment. Data from 2017 is missing in Blackboard and cannot be retrieved. In 2016, a different instructor taught this class, and data is not available for review.

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

A 44-question multiple-choice/true-false final exam was given with one point being awarded for each correct answer. The exam was weighted 40 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 outcome-related 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. Seven questions related to this outcome were identified for 2018, and three questions related to this outcome were identified for 2019.

80% of the students scored 6/7 (85.7%) questions correctly for 2018, and 80% of the students scored 3/3 (100%) questions correctly for 2019, both semesters 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.

For 2018, the average score for this outcome was 97.3%, and for 2019, the average score for this outcome was 90%, well above the ARRT standard to pass, at 76%. All students completing this course for 2018 and 2019 met the standard of success.

Based on the assessment results, students have a good understanding of coil selections, scan planes and imaging options used in Magnetic Resonance Imaging of the chest, abdomen and pelvis.

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.

Plans for continuous improvement will include maintaining course content and adjusting course content if new technology develops.

We will evaluate the 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 report indicating intended changes is available. This is the first assessment.

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?

The assessment process brought to light that more questions are needed on the final exam related to outcomes 1 and 2. The course is meeting the needs of the students based on student high level of achievement, which exceeds the standard of success.

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

All information included in this report will be shared with departmental staff who will be given an opportunity to comment on this report.

- 4.

Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Assessment Tool	Additional questions will be added to the final exam covering the use of pulse sequences, imaging options, scan planes, normal and abnormal anatomy for Magnetic Resonance Imaging of the chest, abdomen and pelvis.	The rationale for these changes is based on the low number of questions related to the specific outcomes.	2021
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 8.8 on this exam for the area of Body. 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 students will score 70% or higher on the final exam".	The standard of success should reflect students' performance on the topic as a whole, not the class performance on each individual question. It is important for these tools and standards of success to reflect ARRT standards and rankings.	2020
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5. Is there anything that you would like to mention that was not already captured?

6.

III. Attached Files

- [MRI 140 2019 Goal 1](#)
- [ARRT Exam Results](#)
- [MRI 140 2018 Goal 1](#)
- [MRI 140 2018 Goal 2](#)
- [MRI 140 2018 Goal 3](#)
- [MRI 140 2019 Goal 2](#)
- [MRI 140 2019 Goal 3](#)
- [MRI 140 2018-2019 Assessment Data](#)
- [MRI 140 2018 Course Performance](#)
- [MRI 140 2019 Course Performance](#)

Faculty/Preparer: Catherine Blaesing **Date:** 11/13/2019
Department Chair: Kristina Sprague **Date:** 11/13/2019
Dean: Valerie Greaves **Date:** 11/14/2019
Assessment Committee Chair: Shawn Deron **Date:** 03/06/2020