

# Washtenaw Community College Comprehensive Report

## MRI 145 MRI Clinical Education II

Effective Term: Fall 2015

### Course Cover

**Division:** Math, Science and Health

**Department:** Allied Health

**Discipline:** Magnetic Resonance Imaging

**Course Number:** 145

**Org Number:** 15600

**Full Course Title:** MRI Clinical Education II

**Transcript Title:** MRI Clinical Education II

**Is Consultation with other department(s) required:** No

**Publish in the Following:** College Catalog , Time Schedule , Web Page

**Reason for Submission:** New Course

#### **Change Information:**

**Rationale:** This is a required course for the Magnetic Resonance Imaging (MRI) program.

**Proposed Start Semester:** Winter 2016

**Course Description:** This is the second clinical course for certified radiologic technologists ARRT (R), who are admitted to the Magnetic Resonance Imaging (MRI) program. Students will observe, assist, and perform basic patient care and MRI clinical procedures under direct supervision. Students are expected to gain practical experience and demonstrate competency in MR scanning techniques, safety procedures, image evaluation, image post processing, and patient care. This course requires a 15 week, 24-hours/week clinical rotation under the supervision of a certified MRI technologist.

### Course Credit Hours

**Variable hours:** No

**Credits:** 3

**Lecture Hours: Instructor: 0 Student: 0**

**Lab: Instructor: 0 Student: 0**

**Clinical: Instructor: 0 Student: 360**

**Total Contact Hours: Instructor: 0 Student: 360**

**Repeatable for Credit:** NO

**Grading Methods:** Letter Grades

Audit

**Are lectures, labs, or clinicals offered as separate sections?:** NO (same sections)

### College-Level Reading and Writing

College-level Reading & Writing

### College-Level Math

#### Requisites

**Prerequisite** minimum grade "C"

MRI 125 - MRI Clinical I

**Corequisite**

MRI 140

**Enrollment Restrictions**

Admission to the Magnetic Resonance Imaging (MRI) program

## General Education

### Request Course Transfer

Proposed For:

### Student Learning Outcomes

1. Demonstrate clinical competency in performing magnetic resonance (MR) procedures of the central nervous system.

#### **Assessment 1**

**Assessment Tool:** Clinical Evaluation Rubric

**Assessment Date:** Winter 2019

**Assessment Cycle:** Every Three Years

**Course section(s)/other population:** All sections

**Number students to be assessed:** All students

**How the assessment will be scored:** Item analysis of numerical data from the Clinical Evaluation Rubric

**Standard of success to be used for this assessment:** 90% of the students will score 80% or higher on the Clinical Evaluation Rubric.

**Who will score and analyze the data:** Departmental Faculty

2. Demonstrate clinical competency in performing magnetic resonance (MR) procedures of the cervical spine, thoracic spine, and lumbar spine.

#### **Assessment 1**

**Assessment Tool:** Clinical Evaluation Rubric

**Assessment Date:** Winter 2019

**Assessment Cycle:** Every Three Years

**Course section(s)/other population:** All sections

**Number students to be assessed:** All students

**How the assessment will be scored:** Item analysis of numerical data from the Clinical Evaluation Rubric

**Standard of success to be used for this assessment:** 90% of the students will score 80% or higher on the Clinical Evaluation Rubric.

**Who will score and analyze the data:** Departmental Faculty

3. Demonstrate clinical competency in performing magnetic resonance (MR) procedures of the internal auditory canal (IAC) and pituitary region.

#### **Assessment 1**

**Assessment Tool:** Clinical Evaluation Rubric

**Assessment Date:** Winter 2019

**Assessment Cycle:** Every Three Years

**Course section(s)/other population:** All sections

**Number students to be assessed:** All students

**How the assessment will be scored:** Item analysis of numerical data from the Clinical Evaluation Rubric

**Standard of success to be used for this assessment:** 90% of the students will score 80% or higher on the Clinical Evaluation Rubric.

**Who will score and analyze the data:** Departmental Faculty

4. Demonstrate clinical competency in performing magnetic resonance (MR) procedures of the liver.

#### **Assessment 1**

**Assessment Tool:** Clinical Evaluation Rubric

**Assessment Date:** Winter 2019

**Assessment Cycle:** Every Three Years

**Course section(s)/other population:** All sections

**Number students to be assessed:** All students

**How the assessment will be scored:** Item analysis of numerical data from the Clinical Evaluation Rubric

**Standard of success to be used for this assessment:** 90% of the students will score 80% or higher on the Clinical Evaluation Rubric.

**Who will score and analyze the data:** Departmental Faculty

## **Course Objectives**

1. Prepare and screen patients for magnetic resonance (MR) procedures.  
**Matched Outcomes**
2. Obtain a complete and accurate history of previous surgeries, allergies, conditions, general complaints/symptoms pertinent to the requested magnetic resonance (MR) procedure.  
**Matched Outcomes**
3. Prior to scanning, screen all patients for metallic implants, devices, foreign and/or loose metallic objects.  
**Matched Outcomes**
4. Prepare the imaging suite and table for each type of procedure by selecting and positioning imaging devices and aids such as coils, coil holder, sponges, etc.  
**Matched Outcomes**
5. Position the patient, coils, and other devices for each procedure.  
**Matched Outcomes**
6. Demonstrate working knowledge of appropriate anatomic landmarks for each procedure.  
**Matched Outcomes**
7. Perform routine quality assurance procedures.  
**Matched Outcomes**
8. Identify normal and abnormal anatomy on magnetic resonance (MR) scans.  
**Matched Outcomes**
9. Select the appropriate pulse sequences for each procedure.  
**Matched Outcomes**
10. Operate magnetic resonance imaging (MRI) equipment and ancillary devices.  
**Matched Outcomes**
11. Recognize and minimize magnetic resonance imaging (MRI) artifacts.  
**Matched Outcomes**
12. Identify the phase and frequency direction for the sagittal head, coronal sella, axial spine, and coronal spine.  
**Matched Outcomes**
13. Select appropriate imaging parameters to reduce flow artifact, motion, and aliasing (wrap-around).  
**Matched Outcomes**
14. Differentiate between gradient-echo and spine-echo techniques.  
**Matched Outcomes**
15. Recognize patient adverse reactions during magnetic resonance (MR) procedures to contrast administration and act accordingly.  
**Matched Outcomes**
16. Critique images for appropriate clinical information, image quality and patient information.  
**Matched Outcomes**
17. Recognize advantages and disadvantages of axial, sagittal, coronal and oblique images.  
**Matched Outcomes**
18. Communicate effectively with patients, their family members and staff.  
**Matched Outcomes**
19. Identify common indications and common pathology for the central nervous system, internal auditory canal (IAC), pituitary region, and liver.  
**Matched Outcomes**
20. Use the imaging plane and pulse sequence parameters that maximize the diagnostic value of a magnetic resonance (MR) scan of the central nervous system, internal auditory canal (IAC), pituitary region, and liver.  
**Matched Outcomes**

**New Resources for Course**  
**Course Textbooks/Resources**

Textbooks  
Manuals  
Periodicals  
Software

**Equipment/Facilities**

<b><u>Reviewer</u></b>	<b><u>Action</u></b>	<b><u>Date</u></b>
<b>Faculty Preparer:</b> <i>Connie Foster</i>	<i>Faculty Preparer</i>	<i>Nov 18, 2014</i>
<b>Department Chair/Area Director:</b> <i>Connie Foster</i>	<i>Recommend Approval</i>	<i>Nov 18, 2014</i>
<b>Dean:</b> <i>Kristin Brandemuehl</i>	<i>Recommend Approval</i>	<i>Nov 19, 2014</i>
<b>Vice President for Instruction:</b> <i>Bill Abernethy</i>	<i>Approve</i>	<i>Jan 05, 2015</i>