

Washtenaw Community College Comprehensive Report

MRI 120 MRI Procedures I

Effective Term: Fall 2022

Course Cover

College: Health Sciences

Division: Health Sciences

Department: Allied Health

Discipline: Magnetic Resonance Imaging

Course Number: 120

Org Number: 15600

Full Course Title: MRI Procedures I

Transcript Title: MRI Procedures I

Is Consultation with other department(s) required: No

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

Reason for Submission: Course Change

Change Information:

Consultation with all departments affected by this course is required.

Outcomes/Assessment

Rationale: This course is being updated to reflect program changes from a 3-semester program to a 2-semester program. Information from the 3rd semester is being combined into the 1st and 2nd semester. This is a first semester course.

Proposed Start Semester: Winter 2023

Course Description: In this course, students learn the Magnetic Resonance Imaging (MRI) scanning procedures for the central nervous and musculoskeletal systems. Topics include scanning pulse sequences, positioning and patient care, sectional anatomy, and pathology. Anatomical structures and the plane that best demonstrates anatomy as well as signal characteristics of normal and abnormal structures will be discussed.

Course Credit Hours

Variable hours: No

Credits: 3

Lecture Hours: Instructor: 45 **Student:** 45

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

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

Total Contact Hours: Instructor: 45 **Student:** 45

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

Enrollment Restrictions

Admission to Magnetic Resonance Imaging (MRI) program.

General Education**Request Course Transfer**

Proposed For:

Student Learning Outcomes

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

Assessment 1

Assessment Tool: Outcome-related questions on the departmental final exam

Assessment Date: Fall 2023

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: Answer key

Standard of success to be used for this assessment: 70% of the students will score 70% or higher on the outcome-related questions.

Who will score and analyze the data: Departmental faculty

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

Assessment 1

Assessment Tool: Outcome-related questions on the departmental final exam

Assessment Date: Fall 2023

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: Answer key

Standard of success to be used for this assessment: 70% of the students will score 70% or higher on the outcome-related questions.

Who will score and analyze the data: Departmental faculty

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

Assessment 1

Assessment Tool: Outcome-related questions on the departmental final exam

Assessment Date: Fall 2023

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: Answer key

Standard of success to be used for this assessment: 70% of the students will score 70% or higher on the outcome-related questions.

Who will score and analyze the data: Departmental faculty

Course Objectives

1. Identify scan planes used for imaging specific pathology of the central nervous system (CNS).
2. Identify intra- and extra-axial pathology of the CNS on MRI scans.
3. Recognize congenital abnormalities of the brain and spinal cord on MRI scans.
4. Discuss the role that MRI plays in detecting demyelination of the brain.
5. Discuss infectious processes of the CNS and scanning considerations.

6. Discuss MRI imaging of the trauma patient and patient care considerations for CNS and musculoskeletal clinical presentations.
7. Identify normal imaging planes, protocols, and parameters used for musculoskeletal MR imaging.
8. Discuss patient care issues associated with imaging the musculoskeletal patient with abnormal anatomical positioning.
9. Identify MR imaging protocols and parameters used to best demonstrate musculoskeletal pathology.
10. Discuss the clinical challenges to imaging the musculoskeletal trauma patient.
11. Use clinically acquired images as a basis for the discussion of pathology, anatomy, pulse sequences and parameters for MR musculoskeletal imaging.

New Resources for Course

Course Textbooks/Resources

Textbooks

Grey, Michael L. and Ailinani, Jagan M. *CT and MRI: Pathology: A Pocket Atlas*, 3rd ed. New York: McGraw-Hill Education, 2018, ISBN: 9781260121940.

Bright, Anne. *Planning and Positioning in MRI*, 1st ed. Chatswood: Elsevier, 2011, ISBN: 978-072953985.

Burghart, Geraldine and Finn, Carol. *Handbook of MRI Scanning*, 1st ed. St. Louis: Elsevier, 2011, ISBN: 978-032306818.

Manuals

Periodicals

Software

Equipment/Facilities

Other: Virtual

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
Faculty Preparer: <i>Catherine Blaesing</i>	<i>Faculty Preparer</i>	<i>Jan 16, 2022</i>
Department Chair/Area Director: <i>Kristina Sprague</i>	<i>Recommend Approval</i>	<i>Jan 19, 2022</i>
Dean: <i>Shari Lambert</i>	<i>Recommend Approval</i>	<i>Jan 28, 2022</i>
Curriculum Committee Chair: <i>Randy Van Wagnen</i>	<i>Recommend Approval</i>	<i>Mar 15, 2022</i>
Assessment Committee Chair: <i>Shawn Deron</i>	<i>Recommend Approval</i>	<i>Mar 16, 2022</i>
Vice President for Instruction: <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Mar 22, 2022</i>

Washtenaw Community College Comprehensive Report

MRI 120 MRI Procedures I

Effective Term: Fall 2015

Course Cover

Division: Math, Science and Health

Department: Allied Health

Discipline: Magnetic Resonance Imaging

Course Number: 120

Org Number: 15600

Full Course Title: MRI Procedures I

Transcript Title: MRI Procedures I

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) curriculum.

Proposed Start Semester: Fall 2015

Course Description: In this course, students learn the Magnetic Resonance Imaging (MRI) scanning procedures for the central nervous and musculoskeletal systems. Topics include scanning pulse sequences, positioning and patient care, sectional anatomy, and pathology. Anatomical structures and the plane that best demonstrates anatomy will be discussed as well as signal characteristics of normal and abnormal structures.

Course Credit Hours

Variable hours: No

Credits: 3

Lecture Hours: Instructor: 45 **Student:** 45

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

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

Total Contact Hours: Instructor: 45 **Student:** 45

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

Enrollment Restrictions

Admission to the Magnetic Resonance Imaging (MRI) program.

General Education

Request Course Transfer

Proposed For:

Student Learning Outcomes

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

Assessment 1

Assessment Tool: Department final exam

Assessment Date: Fall 2018

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: 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

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

Assessment 1

Assessment Tool: Department final exam

Assessment Date: Fall 2018

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: 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

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

Assessment 1

Assessment Tool: Department final exam

Assessment Date: Fall 2018

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: 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

Course Objectives

1. Identify scan planes used for imaging specific pathology of the central nervous system (CNS).

Matched Outcomes

2. Identify intra and extra axial pathology of the central nervous system (CNS) on MRI scans.

Matched Outcomes

3. Recognize congenital abnormalities of the brain and spinal cord on MRI scans.

Matched Outcomes

4. Discuss the role that MRI plays in detecting demyelination of the brain.

Matched Outcomes

5. Discuss infectious processes of the central nervous system (CNS) and scanning considerations.

Matched Outcomes

6. Discuss MRI imaging of the trauma patient and patient care considerations for CNS and musculoskeletal clinical presentations.

Matched Outcomes

7. Identify normal imaging planes, protocols, and parameters used for musculoskeletal MR imaging.

Matched Outcomes

8. Discuss patient care issues associated with imaging the musculoskeletal patient with abnormal anatomical positioning.

Matched Outcomes

9. Identify MR imaging protocols and parameters used to best demonstrate musculoskeletal pathology.

Matched Outcomes

10. Discuss the clinical challenges to imaging the musculoskeletal trauma patient.

Matched Outcomes

11. Use clinically acquired images as a basis for discussion of pathology, anatomy, pulse sequences and parameters for MR musculoskeletal imaging.

Matched Outcomes

New Resources for Course

Course Textbooks/Resources

Textbooks

Manuals

Periodicals

Software

Equipment/Facilities

Level III classroom

Testing Center

Reviewer

Action

Date

Faculty Preparer:

Connie Foster

Faculty Preparer

Nov 18, 2014

Department Chair/Area Director:

Connie Foster

Recommend Approval

Nov 18, 2014

Dean:

Kristin Brandemuehl

Recommend Approval

Nov 19, 2014

Vice President for Instruction:

Bill Abernethy

Approve

Jan 05, 2015