

Course Outcomes Guide

Course/Program Title: RAD 222 Principles of MR Imaging

Date: Fall 2017

Course/Program Team: Jason Hamilton

Expected Learning Outcomes:

STUDENT LEARNING OUTCOMES:

At the completion of this course, the student will be able to:

- Describe the historical development of MRI technology and its advantages as an imaging modality today.
- Describe the basic principles of MRI.
- Define basic MRI terminology and image parameters used to produce magnetic resonance images.
- Identify common MRI parameters and the important role each plays in the production of an optimal magnetic resonance image.
- Describe MRI hardware and basic system operation.
- Identify common artifacts that can occur during MRI imaging and the compensation techniques used to manage them.
- Identify MRI contrast agents, their chemical and physiologic properties, and indications and contra-indications for their use.
- Describe the patient experience for a typical MRI exam, including patient preparation and post-exam instructions.
- Describe the “flow” of information from initial image acquisition to postprocessing, image interpretation and image storage.
- State the magnet safety and shielding guidelines required for patients and operators.

Assessment: (How do or will students demonstrate achievement of each outcome? Chapter quizzes, exams, comprehensive final exam.)

Validation: (What methods have you used or will you use to validate your assessment?)

- Students will successfully complete the course with 75% or higher.

Results: (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)

- 100% (7/7 students) successfully completed the course with 75% or higher

	FA/17
Question # 1 Resonance	7/7 100%
Question # 4 Tesla	7/7 100%
Question # 20 Maximum amplitude	7/7 100%
Question # 25 Z-axis	7/7 100%
Question # 31 RF pulse	6/7 86%
Question # 39 STIR pulse	7/7 100%

Follow-up: (How have you used or how will you use the data to improve student learning?)

- Continue to help streamline quizzes to exams so that students understand and retain the material.
- Continue to use MR Basics as an additional resource for class to help to reinforce difficult concepts.
- Review sessions were offered to help students understand difficult concepts. Both in person and online reviews were held.
- Purchasing the MIC Crosstrainer as an additional resource to assist students in learning difficult concepts.

Budget Justification: (What resources are necessary to improve student learning?)

No new resources needed at this time.