Magnetic Resonance Imaging Program Courses (Radiation Sciences) (RSMR)

This is a list of all magnetic resonance imaging program courses. For more information, see Radiation Sciences.

**RSMR:4110 Fundamentals for the MRI Technologist**  
3 s.h.  
Caregiving skills specific to patients undergoing MRI examinations, including techniques in effectively communicating for safety and comfort; maintaining patient and personnel safety; patient preparation, monitoring, and venipuncture; technologist’s role in a wide variety of MRI examinations and patient conditions. Requirements: acceptance to B.S. radiation sciences RT/MRI track or ARRT primary certification in radiologic technology, nuclear medicine, sonography, or radiation therapy.

**RSMR:4120 MRI Procedures I**  
4 s.h.  
Imaging techniques related to central nervous and musculoskeletal systems; specific clinical applications; available coils and their use; considerations in imaging parameters; specific choices in protocols and positioning criteria; anatomical structures and the plane that best demonstrates anatomy; signal characteristics of normal and abnormal structures. Prerequisites: RSCT:4100 and RSMR:4110. Requirements: concurrent registration in RSMR:4110, if not taken as a prerequisite; or three months MRI experience.

**RSMR:4130 MRI Procedures II**  
3 s.h.  
MRI techniques related to neck, thorax, breast, abdomen, and pelvis; specific clinical applications; available coils and their use; considerations in imaging parameters; specific choices in protocols and positioning criteria. Prerequisites: RSMR:4120.

**RSMR:4140 MRI Acquisition and Principles I**  
3 s.h.  
Physics and hardware used in obtaining a magnetic resonance signal, including magnetism, NMR signal production, tissue characteristics, spatial localization, pulse sequencing, imaging parameters and options, and special applications; exploration of skills useful in maximizing MR image quality. Prerequisites: RSMR:4110. Requirements: concurrent registration in RSMR:4110, if not taken as a prerequisite; or three months MRI experience.

**RSMR:4150 MRI Acquisition and Principles II**  
3 s.h.  
Advanced MRI techniques; MR angiography and further investigation of fast image acquisition sequences; overview of MR magnets, installation, operation, and facility design; computers and digital image acquisition as they apply to MR; outline of quality assurance procedures. Prerequisites: RSMR:4140.

**RSMR:4160 MRI Clinical Internship I**  
2 s.h.  
MRI clinical internship scheduled at University of Iowa Hospitals & Clinics; rotation through each MRI department scanning room; competency and objective-based education with required clinical performance evaluations; clinical preceptor facilitates schedules, rotations, learning objectives, evaluations, and competencies; experience facilitated by MRI technologists, radiologists, residents, and preceptor; participation in routine and advanced MRI scans; performance expectations become progressively higher as student gains experience and skills. Prerequisites: RSMR:4110. Corequisites: RSMR:4120 and RSMR:4140, if not taken as prerequisites. Requirements: acceptance to B.S. radiation sciences RT/MRI track.

**RSMR:4170 MRI Clinical Internship II**  
4 s.h.  
MRI clinical internship scheduled at University of Iowa Hospitals & Clinics; rotation through each MRI department scanning room; competency and objective-based education with required clinical performance evaluations; clinical preceptor facilitates schedules, rotations, learning objectives, evaluations, and competencies; experience facilitated by MRI technologists, radiologists, residents, and preceptor; participation in routine and advanced MRI scans; performance expectations become progressively higher as student gains experience and skills. Prerequisites: RSMR:4140, if not taken as a prerequisite. Requirements: acceptance to B.S. radiation sciences RT/MRI track.

**RSMR:4175 MRI Clinical Internship III**  
4 s.h.  
Rotation through MRI department scanning rooms at University of Iowa Hospitals & Clinics; competency and objective-based education with required clinical performance evaluations; clinical preceptor facilitates schedules, rotations, learning objectives, evaluations, and competencies; experience facilitated by MRI technologists, radiologists, residents, and preceptor; participation in routine and advanced MRI scans; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSMR:4170.