

# MAGNETIC RESONANCE IMAGING (MRI)

SPECIAL NOTE: For more information on ECC's advanced imaging programs, go to [Medical Imaging](#).

A criminal background check and drug test MAY be required prior to enrollment.

## **MRI 100 MR Physical Principles (3) 2,2**

MR Physical Principles will introduce the fundamental principles that lend themselves to the creation of the magnetic resonance images through the understanding of basic quantum physics, instrumentation, and the manipulation of basic technical factors. This course's topics will cover magnetic molecular principles, image weighting and contrast, tissue characteristics, spatial localizations, MR system components, data collection and image formation, imaging parameters and their trade-offs, and MR safety. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available

### **Radiography Program Information .**

**In-District Tuition/Fees:** \$525 (effective 2022/23 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Acceptance into the Magnetic Resonance Imaging program  
**Semester(s) Offered:** Fall

## **MRI 101 MR Procedures I (3) 2,2**

This course will help the student begin to apply their knowledge of MR physical principles, MR safety, sectional anatomy, MR instrumentation and image formation, and patient care within the MR environment. The student will be introduced to intravenous puncture techniques and contrast administration. This course also provides the student with slice and patient positioning, proper coil selection and positioning, imaging protocols and techniques related to the central nervous system (CNS), neck, and spine. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available

### **Radiography Program Information .**

**In-District Tuition/Fees:** \$525 (effective 2022/23 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Acceptance into the MRI program or consent of the instructor

**Semester(s) Offered:** Fall

## **MRI 103 MR Clinical Practicum I (3) 0,15**

MR Clinical Practicum I encompass the clinical application of technical and professional aspects of magnetic resonance imaging within a healthcare setting. Content is presented as a progression in competency levels through clinical performance objectives and competency exams. Students will be rotated through different MR facilities and be exposed to MR personnel, examinations and educational materials necessary to competently achieve content objectives. The student will be required to demonstrate clinical competency in a number and variety of procedures as required by the American Registry of Radiologic Technologists (ARRT). Activities include demonstration and observation, after which the student assists in performing the activity. When a satisfactory degree of proficiency is apparent, the student can perform the activity under direct supervision. When both the student and instructor are satisfied with the student's proficiency, the student performs studies under indirect supervision to gain experience and expertise in MR imaging and meet the clinical procedural examination requirements outlined in this course. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available

### **Radiography Program Information .**

**In-District Tuition/Fees:** \$525 (effective 2022/23 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Acceptance in the MRI Program or consent of instructor  
**Semester(s) Offered:** Fall

## **MRI 200 Clinical Aspects of MR (3) 2,2**

Clinical Aspects of MR will introduce the student to clinical aspects of magnetic resonance imaging. Topics include pulse sequences, vascular imaging, artifacts and their compensation, contrast agent and their effects on the overall image, advanced imaging techniques and quality assurance. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available

### **Radiography Program Information .**

**In-District Tuition/Fees:** \$525 (effective 2022/23 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in MRI 100 or consent of instructor  
**Semester(s) Offered:** Spring

## **MRI 201 MR Procedures II (3) 2,2**

This procedures course will help the student begin to apply their knowledge of MR physical principles, MR safety, sectional anatomy, MR instrumentation and image formation, and patient care within the MR environment. The student will be introduced to intravenous puncture techniques and contrast administration. This course also provides the student with slice and patient positioning, proper coil selection and positioning, imaging protocols and techniques related to the muscular skeletal system, thorax, abdomen, pelvis, vascular examinations, and special procedures. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available

### **Radiography Program Information .**

**In-District Tuition/Fees:** \$525 (effective 2022/23 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in MRI 101 or consent of the instructor  
**Semester(s) Offered:** Spring

**MRI 204 MR Clinical Practicum II (4) 0,20**

This clinical course provides the student with additional clinical experience necessary to comply with the ARRT clinical experience requirements in order to be eligible to take the ARRT Advanced Certification Examination. It will encompass many of the same technical and professional aspects the prerequisite course, MRI 103; however, the focus here will be to increase the student's knowledge and confidence with more repetition within a healthcare setting. Technologists performing magnetic resonance imaging must competently apply basic protocols, recognize when and how to appropriately alter the standard protocol and recognize equipment and patient considerations that affect image quality. The technologist is responsible for maintaining a safe MRI environment. This course provides the necessary supervised clinical education to become proficient in these skills. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available

**Radiography Program Information**

**In-District Tuition/Fees:** \$657 (effective 2022/23 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in MRI 103 or consent of instructor

**Semester(s) Offered:** Spring

**MRI 205 MR Clinical Practicum III (2) 0,10**

This clinical course provides the student with additional clinical experience necessary to comply with the ARRT clinical experience requirements in order to be eligible to take the ARRT Advanced Certification Examination. It will encompass many of the same technical and professional aspects the prerequisite courses, MRI 103 and 204. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available

**Radiography Program Information**

**In-District Tuition/Fees:** \$393 (effective 2022/23 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Effective Summer 2021 Prerequisite: Grade of C or better in MRI 204 or consent of instructor

**Semester(s) Offered:** Summer