

**University of Cincinnati**

**Advanced Medical Imaging Technology (AMIT)**

**Magnetic Resonance Imaging (MRI) Program Guide**

What is Magnetic Resonance Imaging?

Magnetic Resonance Imaging, or MRI, is the medical specialty that utilizes magnetic fields and their properties in the diagnosis of disease and the analysis of human anatomy. Training in Magnetic Resonance Imaging is twelve consecutive months in duration and will be delivered through a combination of classroom lectures, labs, and clinical site placements. Students successfully completing the curriculum will have fulfilled requirements to sit for the nationally administered board examination.

Detailed link to MRI: <http://www.ismrm.org/resources/information-for-patients/>

#### Mission and Goals – Magnetic Resonance Imaging Program

The goal of this program is to produce competent, multi-skilled, Magnetic Resonance Imaging technologists. Graduates of this program will have obtained the level of didactic and clinical training necessary to meet eligibility requirements for national board examinations in Magnetic Resonance Imaging. While passage of these examinations are up to the individual and therefore cannot be guaranteed by the program, it is the program's goal to supply each graduate with the necessary level of training and experience to adequately prepare for these examinations.

#### **IMPORTANT NOTES ABOUT THE MRI PROGRAM**

The following offenses may disqualify a student for clinical placement:

1. Any felony, whether listed below or not
2. Crimes involving drugs, including but not limited to unlawful possession or distribution
3. Crimes of physical violence to include any type of abuse (child, spousal, or of the elderly), abduction such as kidnapping, manslaughter, murder, robbery, sexual crimes, possession of a restricted firearm or any related weapons offenses, assault and battery
4. Conviction of a misdemeanor related to abuse, neglect, or exploitation
5. Positive drug screening (drug screening may be required of a student at any time throughout the program if there is suspicion that the student may be using a controlled substance not prescribed by a health care worker. Positive findings or refusal to submit to a drug screen will result in immediate administrative withdrawal of the student from the program. The cost of background checks is the responsibility of each student and not the program.

When applying for American Registry of Radiologic Technologists (ARRT) MRI certification and registration, you must answer the following ethics-related question on your application form:

1. Have you ever been convicted in court of a misdemeanor or felony (including conviction of a similar offense in a military court martial)?

As such, you must report:

1. Any charges and convictions, including those that were stayed, withheld, deferred, set aside, or suspended
2. Any plea of guilty, Alford plea, or plea of no content (nolo contendere)
3. Court supervision, probation, or pretrial diversion

It is recommended by the ARRT to perform an Ethics Review Preapplication if any prospective student has faced:

- Misdemeanor or felony charges or convictions
- Military courts-martial
- Disciplinary actions taken by a state or federal regulatory authority or certification board
- Serious honor code (academic) violations as described in our Rules of Ethics, such as patient abuse, violating patient confidentiality, and cheating. You don't have to report offenses such as poor grades or falling asleep in class.

From the ARRT website:

**Complete the ethics review preapplication form, and submit it along with the necessary documentation and nonrefundable fee. Use the criminal violation checklist, regulatory agency violation checklist, or honor code violation checklist to ensure you're sending all required information.**

**An ethics review can take a significant amount of time—sometimes three months or more. If you're concerned about meeting the ethics requirement, the ARRT recommends you request an Ethics Review Preapplication before or shortly after you enter an education program.**

**Once the ARRT receives your submission, the Ethics Committee will review it and make a decision.**

For more information, contact the ARRT at: 651-687-0048

The AMIT MRI program and its clinical affiliates require all students, prior to acceptance, to submit both a federal and state background check, done at the expense of the student. This is a program requirement and refusal to do so will result in not being admitted to the MRI program.

Students must have all required immunizations completed and submitted no later than August 31 of the academic calendar year they will begin the MRI program. Failure to do so will result in delay in clinical rotations and will incur fines from the University Health Services Department.

## PROGRAM CHECKLIST

- \_\_\_ 1. Review this Magnetic Resonance Imaging Program Guide and all program admission requirements (<http://www.cahts.uc.edu/ClinicalHealthInformationSciences/academics/bs-in-advanced-medical-imaging-technology/admission-requirements>)
- \_\_\_ 2. Submit an application to the University of Cincinnati (if not a current student at the University of Cincinnati): <https://admissions.uc.edu/apply.html>
- \_\_\_ 3. Submit an application to the Advanced Medical Imaging Technology (AMIT) program (if not a current AMIT student): <http://www.cahts.uc.edu/ClinicalHealthInformationSciences/academics/bs-in-advanced-medical-imaging-technology/how-to-apply>
- \_\_\_ 4. Submit all transcripts for all college/university work completed to the AMIT office.
- \_\_\_ 5. Provide all documentation listed below prior to beginning of the MRI program (unless otherwise listed differently):
  - Current federal and state background check
  - Up-to-date immunization records (due no later than August 31 of any given year student will begin MRI program)
  - Current CPR certification (to be paid for by student and due no later than 1<sup>st</sup> day of clinical rotations of any given year student will begin MRI program)
- \_\_\_ 6. Complete MRI screening form questionnaire (to be provided to student by program faculty)

## COSTS

The estimated costs for the AMIT MRI program are:

- \$16,500 annually in-state tuition (includes all three semesters but not including books/fees)
- \$17,400 annually metro tuition (includes all three semesters but not including books/fees)
- \$39,501 annually out-of-state tuition (includes all three semesters but not including books/fees)
- Parking is \$369/semester (Eden Avenue Garage rates)
- Estimated costs for MRI program books are approximately \$110 annually
- Estimated University of Cincinnati student fees are approximately \$500 annually
- Federal background check is approximately \$35
- State background check is approximately \$35
- CPR certification is approximately \$35
- Immunizations not to exceed \$1,300 (this would be based on having no prior immunizations) but is typically approximately \$150
- Uniforms are approximately \$130-200
- Board examination (upon successful completion of MRI program) is \$200
- If applicable, and at the sole discretion of the student, ARRT Ethics Review Preapplication is approximately \$150: <https://www.rrt.org/students-of-the-profession/requirements/ethics/ethics-review-preapplication>

## **MRI SAFETY INFORMATION FOR PROSPECTIVE STUDENTS**

MRI Safety Information for Prospective Students Magnetic Resonance Imaging (MRI) machines generate a very strong magnetic field within and surrounding the MR scanner. This magnetic field is always on and unsecured magnetically susceptible (ferromagnetic) materials even at a distance can become accelerated into the bore of the magnet with force sufficient enough to cause serious injury or damage to equipment, patient, and any personnel in its path. Therefore, great care is taken to prevent ferromagnetic objects from entering the MRI scanner room. It is the qualified MR personnel, especially the technologists responsibility to control all access to the scanner room. As a MRI program student, you too become part of this team adhering and obligated to all MRI safety policies and procedures. It is vital that you remove metallic objects before entering the MRI static magnetic field, including watches, jewelry, and items of clothing that have metallic threads or fasteners.

Items that need to be removed before entering the MR system room include:

- Purse, wallet, money clip, credit cards or other cards with magnetic strips
- Electronic devices such as beepers or cell phones
- Hearing aids • Metallic jewelry, watches
- Pens, paper clips, keys, nail clippers, coins, pocket knives
- Hair barrettes, hairpins
- Any article of clothing that has a metallic zipper, buttons, snaps, hooks, or under-wires
- Shoes, belt buckles, safety pins

Before entering the MRI scanner room, you will be asked to fill out a screening form asking about anything that might create a health risk. If you have a bullet, shrapnel, or similar metallic fragment in your body, there is a potential risk that it could change position, possibly causing injury. Also, the magnetic field of the scanner can damage an external hearing aid or cause a heart pacemaker to malfunction.

Examples of items or things that may create a health hazard or other problems:

- Pacemaker
- Implantable cardioverter defibrillator (ICD)
- Neurostimulator system
- Aneurysm clip
- Metallic implant
- Implanted drug infusion device
- Foreign metal objects, especially if in or near the eye
- Shrapnel or bullet
- Permanent cosmetics or tattoos
- Dentures/teeth with magnetic keepers
- Other implants that involve magnets
- Medication patches that contain metal foil (i.e. transdermal patch)

After the applicant completes the MRI Safety Form the Program Director will consult the MRI facility with any questions or concerns regarding your ability to work in a magnetic field. The MRI Screening Form Questionnaire will be provided by MRI Program faculty. Additionally, it can be found here:

<http://www.cahs.uc.edu/docs/default-source/dads/amit/amit-mri-student-mri-questionnaire.pdf?sfvrsn=2>

### **MRI CURRICULUM**

Prospective students may request an application by contacting the AMIT program office at (513) 558-2018, or visiting the AMIT website below:

<http://www.cahs.uc.edu/ClinicalHealthInformationSciences/academics/bs-in-advanced-medical-imaging-technology/how-to-apply>

Prospective students wishing to review the AMIT curriculum, curriculum notes, MRI mission statement and outcomes, and MRI program effectiveness data may visit the website below:

<http://www.cahs.uc.edu/ClinicalHealthInformationSciences/academics/bs-in-advanced-medical-imaging-technology/curriculum>

Prospective students wishing to review information regarding career paths in Magnetic Resonance Imaging may visit the Bureau of Labor Statistics link below:

<http://www.cahs.uc.edu/ClinicalHealthInformationSciences/academics/bs-in-advanced-medical-imaging-technology/career-opportunities>

### **CREDIT HOUR POLICY**

In determining the credit hours awarded for classroom and clinical coursework, the Advanced Medical Imaging Technology Program uses Directive 2010-16 set forth by the Ohio Board of Regents

(<http://regents.ohio.gov/actions/documents/2010/Dir2010-016.pdf>) as a guideline for its policies.

#### Semester Credit Hour Definition

One semester credit hour will be awarded for a minimum of 750 minutes of formalized instruction that typically requires students to work at out-of-class assignments an average of twice the amount of time as the amount of formalized instruction (1,500 minutes). It is acknowledged that formalized instruction may take place in a variety of modes.

While awarding semester credit hours typically occurs for instruction delivered in accordance with an institution's standard semester calendar, it may also occur for instruction that may not follow the typical pattern of an institution's standard semester calendar as long as the criteria for awarding such credit is met.

## Directed Practice Credit Hour Definition

For Directed Practice courses, the student is assigned to practice imaging and imaging related duties under constant supervision at an external imaging center. The student should receive individual instruction and critique in the performance of these duties. Clinical preceptors and mentors who may or may not be paid by the University, may be used for the direct supervision of students and for the delivery of didactic lectures.

Program faculty will meet weekly with the students to discuss their experiences and clinical site visits will be conducted as required by the JRCNMT or JRCERT accrediting agencies. Program faculty will administer grades based upon written feedback and ratings of each student by their clinical preceptors and mentors.

One hour of credit shall be awarded at a ratio of 6:1 contact to credit/week for the directed practice instructional time scheduled during a semester.

## **JRCERT PROGRAM ACCREDITATION**

Joint Review Committee on Education in Radiologic Technology (JRCERT) educational standards are developed and accepted by professionals in the radiologic sciences.

JRCERT is the only organization recognized by the US Department of Education to evaluate and accredit education programs in radiography and radiation therapy, which includes magnetic resonance imaging. JRCERT accreditation demonstrates that a program adheres to the national educational standards that will provide you with the knowledge, skills, and attributes through didactic and clinical education you need for entry into your chosen profession and to practice your profession anywhere in the United States.

Graduation from a JRCERT accredited program assures that you will be eligible to practice in all 50 states.

In some states, only graduates of JRCERT-accredited programs are eligible for licensure or certification. Graduation from a JRCERT-accredited program assures that you will be eligible to practice in all 50 states.

Enrollment in a program accredited by the JRCERT can enhance your eligibility for scholarships and other funding from government and private agencies.