Magnetic Resonance Imaging
Doisy College of Health Sciences
# Table of Contents

- **Page 2**: Accreditation Information
- **Page 3**: Program Goals & Mission
- **Page 4**: Program Outcomes
- **Page 6**: Clinical Sites
- **Page 8**: Technical Standards
- **Page 10**: Additional Fees and Requirements
- **Page 12**: Admission Policy and Grading Scale
- **Page 14**: Learning Outcomes
Accreditation

The MRI Program is accredited by The Joint Review Committee on Education in Radiologic Technology (JRCERT), in cooperation with the American College of Radiology (ACR) and the American Society of Radiologic Technologists (ASRT).

The MRI Program has an advisory committee consisting of clinical instructors, managers, and directors in the healthcare profession. The committee contributes recommendations for enhancing the program as well as assessment of the program.

For further information on the Joint Review Committee on Education in Radiologic Technology, go to [https://www.jrcert.org/](https://www.jrcert.org/).

**Joint Review Committee on Education in Radiologic Technology**
20 N. Wacker Drive, Suite 2850
Chicago, IL 60606
312-704-5300
[mail@jrcert.org](mailto:mail@jrcert.org)
Program Goals

Programmatic Mission:

The Magnetic Resonance Imaging Program at the Saint Louis University Doisy College of Health Sciences is dedicated to preparing liberally educated, competent, caring and socially responsible Magnetic Resonance Imaging Technologists, committed to clinical and scholarly excellence.

Magnetic Resonance Imaging Program Goals:

- **Goal A:** Students will be clinically competent
  1. Students will appropriately use, record, and verify patient data
  2. Students will position patients as directed
  3. Students will use the proper imaging sequences
  4. Students practice proper MRI and patient safety

- **Goal B:** The students will demonstrate problem solving and critical thinking skills
  1. Students will complete imaging procedures, explaining steps in detail
  2. Students will present case studies and MRI final capstone project.

- **Goal C:** Students will demonstrate effective communication skills
  1. The student will appropriately communicate with patients
  2. The student will demonstrate appropriate written communication
  3. The student will demonstrate proper presentations skills

- **Goal D:** Students will demonstrate professional growth and development
  1. The student will demonstrate professional behaviors
  2. The student will have knowledge of ethical behaviors
  3. Students will demonstrate professional growth through critical thinking
Program Outcomes

These data presented are the outcomes that are required by the Joint Review Committee on Education in Radiologic Technology. These results will be posted annually.

Enrollments, Graduates and Program Completion Rate

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>No. of Students Initially Enrolled</th>
<th>No. Students Graduated</th>
<th>Program Completion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>9</td>
<td>8</td>
<td>89%</td>
</tr>
<tr>
<td>2015</td>
<td>8</td>
<td>8</td>
<td>100%</td>
</tr>
<tr>
<td>2016</td>
<td>8</td>
<td>5</td>
<td>63%</td>
</tr>
<tr>
<td>2017</td>
<td>4</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>2018</td>
<td>10</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>5-year average</td>
<td>90%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Enrollments are defined as the number of new students who began the program during the reporting period indicated.

Graduates are defined as the total number of students that the MRI Program graduated during the reporting period indicated.

Program Completion Rate is calculated by dividing the number of students who complete the program within the cohort by the number who enrolled in the cohort initially and subsequently. Any student who leaves the program for any reason (medical leave, personal reasons or course failure) is counted as not completing the program.

Credentialing Examination Pass Rate

<table>
<thead>
<tr>
<th>ARRT Exam</th>
<th>Graduation Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2014</td>
</tr>
<tr>
<td>No. First Time Examinees</td>
<td>8/8</td>
</tr>
<tr>
<td>No. Repeat Examinees</td>
<td>0</td>
</tr>
<tr>
<td>Percent Pass Rates</td>
<td>100%</td>
</tr>
<tr>
<td>5-year average</td>
<td>94%</td>
</tr>
</tbody>
</table>

Credentialing Examination Pass Rate is defined as the number of graduates who pass the American Registry of Radiologic Technologists (ARRT) credentialing exam compared with the number of graduates who take the exam.
### Program Outcomes Continued

#### Job Placement Rate

<table>
<thead>
<tr>
<th>Graduation Year</th>
<th>No. Graduates Actively Seeking Employment</th>
<th>No. Graduates Employed within Twelve Months of Graduation</th>
<th>Percent of Graduates Employed within Six Months of Graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>8</td>
<td>8</td>
<td>100%</td>
</tr>
<tr>
<td>2015</td>
<td>6</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>2016</td>
<td>4</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>2017</td>
<td>4</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>2018</td>
<td>10</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>5-year average</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Job Placement Rate is defined as the number of graduates employed in the radiologic sciences compared to the number of graduates actively seeking employment in the radiologic sciences.

#### Annual Learning Outcomes Report

The program annually tracks the following learning outcome goals as part of its ongoing assessment plan, as required by the JRCERT. These goals are:

1. Students will be clinically competent,
2. Students will demonstrate problem solving skills and critical thinking skills,
3. Students will demonstrate effective communication skills
4. Students will demonstrate professional growth and development.
Clinical Sites

Clinical education requirements will place the student in the patient care setting in various clinical areas throughout the St. Louis Metro area; therefore a student must have reliable transportation to get to the clinical sites. Students will travel to several of the following sites for their clinical rotation.

**Barnes-Jewish Hospital**
1 Barnes-Jewish Hospital Plaza
St. Louis, MO 63110

**Belleville Memorial Hospital**
4500 Memorial Drive
Belleville, IL 62226

**Cardinal Glennon Children’s Hospital**
MRI Dept
1465 S. Grand Blvd.
St. Louis, MO 63104-1095

**Mercy Outpatient Services - Old Tesson Location**
12348 Old Tesson Rd.
St. Louis, MO 63128

**Mercy Outpatient Services - Clayton-Clarkson Location**
15945 Clayton Rd.
Ballwin, MO 63011

**Missouri Baptist Medical Center**
3015 N. Ballas Rd.
St. Louis, MO 63131

**Saint Louis University Hospital**
3635 Vista Ave. at Grand Blvd.
St. Louis, MO 63110-0250

**SSM DePaul Hospital**
12303 DePaul Drive
Bridgeton, MO 63044

**SSM Health St. Mary’s Hospital**
6420 Clayton Road
Richmond Heights, MO 63117

**SSM St. Joseph Health Center**
300 First Capital Dr.
St. Charles, MO 63301

**SSM St Clare Health Center**
1015 Bowles Ave.
Fenton, MO 63026
St. Louis Children’s Hospital  
1 Children’s Place  
St. Louis, MO 63110  

St. Luke’s Hospital  
232 S. Woods Mill Road  
Chesterfield, MO 63017  

VA St. Louis Health Care System  
John Cochran Division  
915 North Grand Ave.  
St. Louis, MO 63106
Technical Standards

Purpose: This is a non-discriminatory policy that describes the intellectual, social, and physical capabilities required to perform the tasks of magnetic resonance imaging. The mission of the program is to educate a practitioner in Magnetic Resonance Imaging. Therefore, students must meet these standards to pursue the program coursework and work within the field.

All applicants and students of the Magnetic Resonance Imaging Program must be able to perform each of the standards stated in this policy.

In some cases the use of adaptive devices may be permitted in order for the student to meet selected technical standards.

Magnetic Resonance Imaging Technologists are required to:

- Intellectually understand the conceptual, integrative, and quantitative ability to analyze information and data. Comprehend three-dimensional relationships and the spatial relationships of structure. Understand and apply clinical instructions given by departmental personnel.
- Tolerate physical and emotional stress and continue to effectively function. Demonstrate emotional stability and psychological health in day-to-day interaction with patients, staff, family members, and others. They must be adaptable, flexible, and able to function in the face of uncertainty. A student must be able to develop mature, sensitive, and effective relationships with patients and colleagues. He/she must have a high level of compassion for others, motivation to serve, integrity and a consciousness of social values. A student must possess sufficient interpersonal skills to interact with people from all levels of society, all ethnic backgrounds, and all belief systems.
- Clearly communicate, verbally and in writing, with the patient, families, personnel, and others to disseminate information about patient care and work duties. Candidates must be able to speak and hear at a level that allows them to elicit and convey information, accurately perceive nonverbal communication, and describe changes in patient mood, activity and posture, and recognize and respond to an emergency or urgent situation. Must demonstrate normal or corrected hearing to discern audible signals on camera imaging equipment, phones, and timing devices.
- See with normal or device corrected vision. They must possess the ability to discriminate among blacks, grays, and whites, and various color combinations that indicate tissue contrast on both display devices and recorded images. A student must be able to observe patients accurately and completely, both from a distance and at close range.
- Read, extract and apply appropriate information and instructions contained in patient requisitions, notes, and medical charts. Have the ability to read and comprehend technical and medical information.
- Have the manual dexterity to perform various MRI procedures, such as patient imaging, system quality control, venipuncture, and preparation and administration of contrast media. Motor skills must include the ability to extend hands and arms in any direction. You must be able to hold, grasp, and turn with the hands, and possess the ability to coordinate eyes, hands and feet rapidly and accurately.
• Lift, transfer, and/or move patients from wheelchairs/stretchers/beds to imaging tables. Lift, move, reach, or push MRI equipment weighing approx. 30-35 lbs., (e.g. imaging coils, contrast pumps, etc.). Endure an eight-hour clinical day with a minimum of four to six hours of standing or walking.
• Submit to and receive a satisfactory report on criminal background checks and drug testing for substances of abuse.

Please note: Many medical devices, such as pacemakers, clips, cochlear implants, medication pumps, stimulators, etc., are considered unsafe in the magnetic field environment of the MRI Suite. Other implants may be considered safe or conditional; allowing access to the high magnet field and the MRI technologist profession. In addition, metallic foreign bodies inside the body may be adversely affected by the magnetic field.

Any Magnetic Resonance Imaging Program applicant who has a medical device or an internal metallic foreign body MUST contact the program faculty for clearance into the program.
Additional Program Requirements and Fees

<table>
<thead>
<tr>
<th></th>
<th>Criminal Background Check</th>
<th>Drug Screen</th>
<th>Respiratory Fit Test</th>
<th>Two Step Tb/PPD Screening</th>
<th>Annual Flu Shot</th>
<th>Poster Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013 fees:</td>
<td>$105</td>
<td>$30</td>
<td>$30</td>
<td>$28</td>
<td>$20</td>
<td>$25-35</td>
</tr>
</tbody>
</table>

Criminal Background Check

2013 fees: $105.00
A majority of the Doisy College of Health Science's learning experience facilities mandate that criminal background checks be performed on all persons having any opportunity for patient/client interaction. This includes employees and volunteers, as well as students. A CBC revealing a charge and/or conviction for certain crimes could result in a ban from participation in learning experiences and thus prevent graduation. Therefore, every student in the Doisy College of Health Sciences whose academic program requires her/him to participate in learning experiences in an affiliate facility will be required to undergo the level of CBC required by their major department and/or the affiliate facility.

The Office of Clinical Education Compliance has a detailed policy that outlines the procedure for obtaining a CBC through the University. Please refer to the Office of Clinical Education Compliance or your department for a copy of this policy.

The timing of a CBC will be in concert with the student's program/department or affiliate facility policies. A single negative check does NOT preclude the requirement of additional checks at a future time. Students should be aware that any affirmative results from a CBC could restrict ability to participate in a learning experience and therefore restrict ability to complete degree requirements. In addition, the lack of an acceptable report on a CBC could bar the student from sitting for licensure examinations and thus from practice in certain professions.

In the event that a student's CBC is reported "affirmatively" the student will have the opportunity to contest the report by requesting an additional CBC. In the event that an Affirmative CBC is confirmed, the compliance officer will notify the designated program/department official and the student.

Drug Screen

2013 Fees: $30.00
A pre-placement drug screen is required for accreditation standards in the affiliated hospitals in which University faculty and staff work. To comply with these standards and federal regulations, Saint Louis University will require that a pre-placement drug screen occur for students in clinical placement where there will be occupational activities in a University affiliated hospital, clinical site, direct patient contact, or employment.

The student will be advised of the pre-placement drug screen requirement prior to beginning the program. The candidate will be provided with instructions for scheduling the drug screen in Student Health.

If the candidate satisfactorily completes the drug screen, and it is negative, Student Health will notify the Program Director.
Candidates who have a positive drug screen are interviewed by an independent Medical Review Officer who determines if there is a legitimate reason for the presence of a controlled substance. The results of this interview are provided to Student Health and made available to the program.

In the event of a positive result, the Program Director and student will be notified of the positive drug screen. The student will be counseled, and further action regarding the student's enrollment in the program will be considered. The student will be advised that a positive test may result in immediate dismissal from the program.

Other required immunizations/screenings required for clinical placement:

**Respiratory Fit Test**
Provided at SLU Student Health
2013 fees: $30.00

**Two Step Tb/PPD Screening**
Provided at SLU Student Health
2013 fees: $28.00

**Annual Flu Shot**
Provided at SLU Student Health
2013 fees: $20.00

**Poster Printing**
Provided at SLU Instructional Media Center 2013 fees: $25.00-$35.00
Students are required to prepare and present a research poster as part of their coursework. Students must pay for the cost of printing this poster which is provided at the SLU Instructional Media Center

**Clinical Dress Code**
Clinical sites require students to wear scrubs during the clinical rotations. It is the responsibility of the students to purchase their scrubs. Information about site specific requirements (i.e. color) will be provided during program orientation.
# Admission Policy and Grading Scale

## Admission Policy
All incoming freshman are reviewed according to Saint Louis University’s Admission policies. Non-freshman admissions require a minimum GPA of 2.7 and a minimum ACT score of 22 with no subsection lower than 20.

Admission decisions are made according to date of complete application submission and space availability on approved JRCERT accreditation class size. A meeting with the MR Program faculty is highly encouraged to discuss admissions criteria, perquisites and Program technical standards.

## Program Grading Policy
The MRI Program follows the Saint Louis University grading scale policy. The grading scale for each course is as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
</tr>
<tr>
<td>C</td>
<td>73-76</td>
</tr>
<tr>
<td>C-</td>
<td>70-72</td>
</tr>
<tr>
<td>D</td>
<td>65-69</td>
</tr>
<tr>
<td>F</td>
<td>&lt;65</td>
</tr>
</tbody>
</table>
### SAINT LOUIS UNIVERSITY
DOISY COLLEGE OF HEALTH SCIENCES
ASSESSMENT PLAN

**GENERAL GOAL:** CONTINUOUSLY MONITOR STUDENT LEARNING OUTCOMES

<table>
<thead>
<tr>
<th>Division:</th>
<th>Clinical Health Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program:</td>
<td>Magnetic Resonance Imaging - Professional Year</td>
</tr>
<tr>
<td>Academic Year:</td>
<td>2017-2018</td>
</tr>
</tbody>
</table>

**Mission:** The Magnetic Resonance Imaging Program at Saint Louis University, Doisy College of Health Sciences is dedicated to preparing liberally educated, competent, caring and socially responsible MRI technologists, committed to clinical and scholarly excellence.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Measurement Tool/Reporting Strategies</th>
<th>Threshold (Benchmark)</th>
<th>Time Line/Responsible Person</th>
<th>Data/Status/Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal A: Students will be clinically competent</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 1. Students will appropriately use, record, and verify patient data | 1: a. Clinical Rotation Performance Evaluation, Clinical Competency Form  
   b. Mid & final Rotation Eval Form | 1: a. Average Score of ≥ 2 on a 3 point scale,  
   3= Exceeded  
   b. Average Score of ≥ 2 on a 3 point scale,  
   3= Exceeded | 1: a & b Spring Evaluation Review and Summer Final Evaluation Review by Clinical Coordinator/Instructor | 1 a. 9/9 ≥ 2  
   1 b. 9/9 ≥ 2 |
| 2. Students will position patients as directed | 2: a Clinical Competency Form  
   b. Mid & final rotation eval form | 2: a. Average Score of ≥ 2 on a 3 point scale.  
   b. Average Score of ≥ 2 on a 3 point scale.  
   3= Exceeded | 2: a & b Spring Evaluation Review and Summer Final Evaluation Review by Clinical Coordinator/Instructor | 2 a. 9/9 ≥ 2  
   2 b. 9/9 ≥ 2 |
| 3. Students will use the proper imaging sequences for ordered exam | 3: a Clinical Competency Form  
   b. Mid & final rotation eval form | 3: a. Average Score of ≥ 2 on a 3 point scale.  
   b. Average Score of ≥ 2 on a 3 point scale. | 3: a. Spring Evaluation Review and Summer Final Evaluation Review by Clinical Coordinator/Instructor  
   3 b. End of course, Fall semester by Didactic Instructor | 3 a. 9/9 ≥ 2  
   3 b. 9/9 ≥ 2 |
| 4. Students practice proper MRI and patient safety | 4: a. Clinical Rotation Competency Requirements,  
   Clinical Competency Form  
   b. Clinical Competency Form | 4: a. Completion dates  
   b. Average Score of ≥ 2 on a 3 point scale. | 4: Spring Evaluation Review and Summer Final Evaluation Review by Clinical Coordinator/Instructor | 4 9/9 ≥ 2 |
<table>
<thead>
<tr>
<th>Outcome</th>
<th>Measurement Tool/ Reporting Strategies</th>
<th>Threshold (Benchmark)</th>
<th>Time Line/ Responsible Person</th>
<th>Data/Status/ Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal B: The students will demonstrate problem solving and critical thinking skills</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 1. Students will complete imaging procedures, explaining steps in detail. | 1. a. Clinical Competency Form  
   b. Clinical Practicum Final Grade  
   c. Employer Survey | 1. a. Average Score of > 2 on a 3 point scale  
   b. Average Score of > 2 on a 3 point scale  
   c. 75% response “agree” | 1. a. End of summer Semester by Course Instructor  
   b. End of summer semester by Course Instructor  
   c. 6 months after graduation by Program Director | 1 a. 9/9 ≥ 2  
   1.b. 9/9 ≥ 2  
   1 c. 6/6 – “agree” |
| 2. Students will present case studies and MRI final capstone project. | 2. a. Case studies  
   b. MRI Capstone project | 2. a. Average Score of ≥ 7 on a 10 point scale.  
   b. Average Score of ≥ 3 on a 5 point scale | 2 a. 9/9 ≥ 7  
   b. 9/9 ≥ 3 |
| **Goal C: Students will demonstrate effective communication skills** | | | | |
| 1. The student will appropriately communicate with patients | 1: a. Clinical Rotation Performance Evaluation, General Patient Care  
   b. Clinical Procedure Competency Form  
   c. Employer Survey Questions 6,8,9,10 | 1. a. Average Score of > 2 on a 3 point scale.  
   b. Average Score of > 2 on a 3 point scale  
   c. 75% response “agree” | 1. a. End of Spring Semester by Clinical Coordinator  
   b. Spring Evaluation Review and Summer Final Evaluation Review by Clinical coordinator/Clinical Instructor  
   c. 6 months after graduation by Program Director | 1 a. 9/9 ≥ 2  
   1 b. 9/9 ≥ 2  
   1 c. 4/4 “Agree” |
| 2. The student will demonstrate appropriate written communication | 2: a. Clinical Reflection Papers  
   b. MRI Capstone final paper | 2: a. Average score of ≥11 on a 15 point scale  
   b. Average Score of > 75% | 2 a. Spring & summer semester by Didactic Instructor  
   b. Spring Semester by Didactic Instructor | 2 a. 9/9 ≥ 11  
   2 b. 9/9 ≥ 75% |
<p>| 3. The student will demonstrate proper presentation skills | 3: MRI 4960 Capstone | 3: Average Score of &gt; 75% | 3: Summer Semester by Didactic instructor | 3. 9/9 ≥ 75% |</p>
<table>
<thead>
<tr>
<th>Outcome</th>
<th>Measurement Tool/Reporting Strategies</th>
<th>Threshold (Benchmark)</th>
<th>Time Line/Responsible Person</th>
<th>Data/Status/Action Plan</th>
</tr>
</thead>
</table>
| **Goal D: Students will demonstrate professional growth and development** | 1: a. Mid & Final Eval form  
                b. Employer Survey,  
                2: a. Mid & Final Eval form  
                b. Employer Survey,  
                                      b. Average response is ≥ 80% “agree”  
                                      2: a. Average Score of ≥ 2 on a 3 point scale.  
                                        b. Average response is ≥ 80% “agree”  
                                      3. Increase in depth of reflection papers average (Score 14-15/15) | 1: a. Summer Final Evaluation Review by Clinical coordinator/Clinical Instructor  
                                            b. 6 months after graduation by Program Director  
                                      2: a. Summer Semester Final Evaluation by Clinical Coordinator  
                                        b. 6 months after graduation by Program Director  
                                      3. Spring/summer semester by Clinical coordinator & Program director | 1 a. 9/9 ≥ 75%  
                                                                                                                                       1 b. 4/4 “agree”  
                                                                                                                                       2 a. 9/9 ≥ 2  
                                                                                                                                       2 b. 4/4 “agree”  
                                                                                                                                       3. 9/9 scored 15 on final Reflection |