Magnetic Resonance Imaging
Doisy College of Health Sciences

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Accreditation

The MRI Program is accredited through Saint Louis University by the Higher Learning Commission allowing our students to sit for the national board exam. The program has been developed following standards set by the Joint Review Committee on Education in Radiologic Technology (JRCERT), the American College of Radiology (ACR) and the American Society of Radiologic Technologists (ASRT).

The MRI Program has an advisory committee consisting of clinical supervisors, 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 **jrcert.org**. The MRI program is pending JRCERT accreditation:

Joint Review Committee on Education in Radiologic Technology
20 N. Wacker Drive, Suite 2850
Chicago, IL 60606
312-704-5300
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 beginning with the first graduating class of the MRI Program. These results will be posted annually.

Enrollments, Graduates and Program Completion Rate

Year of Graduation	No. of Students Initially Enrolled	No. Students Graduated	Program Completion Rate
2013	2	2	100%
2014	9	8	89%
2015	8	8	100%
2016	8	5	63%
2017	4	4	100%
5-year average	90%		

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

ARRT Exam	Graduation Year				
	2013	2014	2015	2016	2017
No. First Time Examinees	2/2	8/8	8/8	5/5	3/3
No. Repeat Examinees	0	0	0	0	1
Percent Pass Rates	100%	100%	100%	100%	67%
5-year average	96%				

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

Graduation Year	No. Graduates Actively Seeking Employment	No. Graduates Employed within Twelve Months of Graduation	Percent of Graduates Employed within Six Months of Graduation
2013	2	2	100%
2014	8	8	100%
2015	6	6	100%
2016	4	4	100%
2017	4	4	100%
5-year average	100%		

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
MRI Dept John Cochran Division
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.
P.O. Box 15250
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 Will 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

Criminal Background Check	Drug Screen	Respiratory Fit Test	Two Step Tb/PPD Screening	Annual Flu Shot	Poster Fee
$105	$30	$30	$28	$20	$25-35

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

SAINT LOUIS UNIVERSITY DOISY COLLEGE OF HEALTH SCIENCES- ASSESSMENT PLAN
GENERAL GOAL: CONTINUOUSLY MONITOR STUDENT LEARNING OUTCOMES

Division: Medical Imaging and Radiation Therapeutics
Program: Magnetic Resonance Imaging - Professional Year
Academic Year: **2014-2015**

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.*

Outcome	Measurement Tool/ Reporting Strategies	Threshold (Benchmark)	Time Line/ Responsible Person	Data/Status/ Action Plan
Goal A: Students will be clinically competent **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. Met Threshold** **1 b. Met Threshold**
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. Met Threshold** **2 b. Met Threshold**
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.** a. Average Score of ≥ 2 on a 3 point scale.	**3: a.** Spring Evaluation Review and Summer Final Evaluation Review by Clinical Coordinator/Instructor **b**. End of course, Fall semester by Didactic Instructor	**3 a. Met Threshold** **3 b. Met Threshold**
4. Students practice proper MRI and patient safety	**4: a.** Clinical Rotation Competency Requirements, **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 Met Threshold**

Outcome	Measurement Tool/ Reporting Strategies	Threshold (Benchmark)	Time Line/ Responsible Person	Data/Status/ Action Plan
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.	**1. a.** Clinical Competency Form **b. Clinical Practicum** Final Grade **c.** Employer Survey **2. a.** Case studies **b.** MRI Capstone project	**1. a.** Average Score of ≥ 2 on a 3 point scale **b.**. Average Grade of ≥ 75 % **c.** Average response is ≥ 4 on a 5 point scale, 5=Excellent **2**. a. Average Score of ≥ 7 on a 10 point scale. **b.** Average Score of ≥ 3 on a 5 point scale	**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 **2. a.** During Spring Semester by Clinical Coordinator and Program Director **b.** During Spring Semester by Clinical Coordinator and Program Director	**1 a. Met Threshold** **1.b. Met Threshold** **2.a. Met Threshold** **b. Met Threshold**
Goal C: Students will demonstrate effective communication skills **1.** The student will appropriately communicate with patients **2.** The student will demonstrate appropriate	**1: a.** Clinical Rotation Performance Evaluation, General Patient Care **b.** Clinical Procedure Competency Form **c.** Mid & Final Eval Form **c.** Employer Survey Questions 7,8,10 **2: a.** Clinical Reflection Papers	**1. a.** Average Score of ≥ 2 on a 3 point scale. **b.** Average Score of ≥ 2 on a 3 point scale **c.** Average response is ≥ 4 on a 5 point scale. **2: a** Average score of ≥ 11 on a 15 point scale	**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 **2 a.** Spring & summer semester by Didactic Instructor	**1 a. Met Threshold** **1 b. Met Threshold** **1 c. Met Threshold** **2 a. Met Threshold**

Outcome	Measurement Tool/ Reporting Strategies	Threshold (Benchmark)	Time Line/ Responsible Person	Data/Status/ Action Plan
written communication **3.** The student will demonstrate proper presentatio skills	**b.** MRI Capstone final paper **3:** MRI 4960 Capstone	**b.** Average Score of ≥ 75% **3:** Average Score of ≥ 75% .	**b.** Spring Semester by Didactic Instructor **3:** Summer Semester by Didactic instructor	**2 b. Met Threshold** **3. Met Threshold**

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
	1: a. Mid & Final Eval form
	  b. Employer Survey,
	
	 2: a. Mid & Final Eval form
	  b. Employer Survey,
	
	 3. Critical Reflection Papers
		1: a. Average Score of ≥ 2 on a 3 point scale.
		
		b. Average response of ≥ 4 on a 5 point scale.
		
		2: a. Average Score of ≥ 2 on a 3 point scale.
		
		b. Average response is ≥ 4 on a 5 point scale
		
		3. Increase in depth of reflection papers average
			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
			  c. End of Fall Semester by Didactic Instructor
			
			3. Spring/summer semester by Clinical coordinator & Program director
				1 a. Met Threshold
				
				1 b. Met Threshold
				
				2 a. Met Threshold
				
				2 b. Met Threshold
				
				2.c. Met Threshold
				
				3. Met Threshold

MRIProgram Eval Reports\MRI learning outcomes table