



ST. CLAIR
COUNTY
COMMUNITY
COLLEGE

Magnetic Resonance Imaging (MRI)

Program Information Package

Revised: 02/20/18

Working in MRI

Magnetic Resonance Imaging, or MRI, procedures play an important role in diagnosing diseases and injuries. An MRI uses magnetic field and radio waves to produce images of the inside of the human body. When a patient lies inside the MRI machine, which is like a large tube, radio waves produce faint signals that create sectional images that are ultimately used by physicians to diagnose medical problems.

MRI technologists are highly-trained and possess the expertise for competent practice. They are mostly employed by hospitals but increasingly, jobs are becoming available in physician offices and imaging centers. The main duties of the MRI technologist include explaining the procedure to the patient, preparing the patient and positioning them correctly, operating the equipment, and recording the images for the physician to interpret. The patient might be in pain or distress, or they might feel claustrophobic. The MRI technologist will provide support while talking patients through the procedure and letting them know what to expect.

Program Mission Statement and Goals

The mission and purpose of the MiRIS MRI Program is to provide for both the personal and professional career development of each MRI student. The general goals of the program are:

1. The students will demonstrate entry level knowledge and competency in the practice of MRI.
2. The students will demonstrate professional attitude values and behaviors necessary for professional success.
3. Students that will demonstrate critical thinking and communication skills as responsible members of the health care team.
4. Graduates will be employable and meet the needs of the health care community.
5. Graduates of the program will be well prepared to successfully complete the ARRT certification examination.

Program Accreditation

The Associate in Applied Arts and Science degree in Magnetic Resonance Imaging is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606-3182. Phone (312) 704-5304. Web site www.jrcert.org.

This program provides a thorough foundation in procedures, pathophysiology, and physics critical to the field of MRI. It is designed not only to foster the skills and knowledge necessary for competent practice, but also places emphasis on professional attitudes, values and behaviors that encourage the professional growth of the individual student.

How the MRI Program Works

The MRI program is offered through a partnership with other Michigan Community Colleges in the Michigan Radiologic and Imaging Science (MiRIS) Consortium. Each college enrolls students in the program under their admission criteria and each awards the degree according to that college's completion requirements.

PROGRAM OUTCOMES/OBJECTIVES:

When students complete this program, they will be able to:

1. apply knowledge of anatomy, physiology, positioning, and MRI sequence parameters to accurately demonstrate anatomical structures.
2. determine imaging parameters to achieve optimum imaging.
3. evaluate images for appropriate positioning, coil selection, and image quality.
4. apply the principles of ferromagnetic safety and contrast application for the protection of the patient, technologist, and others.
5. recognize emergency patient conditions and initiate life-saving first aid and basic life-support procedures.
6. evaluate the performance of MRI systems, know the safe limits of equipment operation, and report malfunctions to the proper authority.
7. participate in MRI quality assurance programs.
8. provide care and comfort in regard to the holistic health of the patient, technologist, and others.
9. provide patient education related to MRI procedures.

Students in the program complete MRI courses delivered in an online environment by one of the MiRIS colleges through Michigan Colleges Online (micollegesonline.org). Clinical education courses are arranged through the MiRIS Director in collaboration with the MRI departments of affiliating hospitals, clinics or other MRI provider facilities. These experiences are developed to meet the established objectives and eligibility requirements of the American Registry of Radiologic Technologists (ARRT) and prepare students to complete the MRI certification exam.

The MRI Program Information Packet

The following pages assist the potential MRI student prepare, apply and succeed in the MRI program at SC4. The package includes information about the eligibility requirements and application process.

Application to SC4

More information about getting started at SC4 is available: <https://www.sc4.edu/admissions/starthere/>

- SC4 Application: Complete the “Application for Admission to SC4,” including Allied Health (AGEGE Magnetic Resonance Imaging) as the program of study.
- Placement Testing: Assessment tests are required if the student has not previously attended college. Arrangements for assessments can be made by calling the Testing Center at (810) 989-5555.
- Attend Orientation: Call (810) 989-5520 to schedule an orientation session.
- Meet with an Advisor
- Register for classes

Prior to the MRI Program

The following courses must be completed by or enrolled in by February 1.

Course	Title	Status
BIO 271	Human Anatomy and Physiology I	Completed or enrolled in with grade of ‘C’ or better
MTH 110*	Intermediate Algebra	Completed or enrolled in with grade of ‘B’ or better
ENG 101	English Composition I	Completed or enrolled in with grade of ‘C’ or better
HE 102	Medical Terminology	Completed or enrolled in with grade of ‘C’ or better
PS 101	Introduction to Political Science	Completed or enrolled in with grade of ‘C’ or better
BIO 272	Human Anatomy and Physiology II	Completed or enrolled in with grade of ‘C’ or better
PHY 110	Introduction to Physics	Completed or enrolled in with grade of ‘B’ or better
ENG 102	English Composition II	Completed or enrolled in with grade of ‘C’ or better
SOC 101	Principles of Sociology	Completed or enrolled in with grade of ‘C’ or better

Application to MRI Program

Persons seeking admission to the MRI program must submit the following by February 1 to be considered for the program course sequencing beginning Summer 1 semester.

- ◆ Allied Health Program Application – MRI with Checklist
- ◆ Job Shadow form
- ◆ Written Expression document

- ◆ Official high school transcript or GED
- ◆ Official college transcripts, if applicable

Applicants are admitted to the MRI program through a competitive points and ranking system. Criteria for ranking includes grade point average (GPA), courses completed prior to the program, written expression rubric, job shadow, and health care experience. A panel may interview final candidates.

Job Shadow

Prior to applying to the program, students are required to observe at least two hours in an Imaging Department of a hospital. Preferably, this will be in the MRI area but because locations are limited, other Imaging Departments will be accepted.

To meet this application requirement:

- Students are responsible to arrange the Job Shadow on their own. Contact the Human Resources Department of the Imaging Center. Complete the Job Shadow Documentation form.
- Obtain the signature of the Imaging or MRI Supervisor at the job shadow site. Have the Supervisor mail the documentation to the address on the form.
- A request to waive the job shadow requirement may be made if prior experience working in a medical imaging setting. Please submit a letter with your application.

Instructions for Student

- Please dress comfortably and professionally (no jeans or t-shirts)
- Keep in mind that the imaging equipment may cause the rooms to become warm
- Please inform clinical staff of any medical procedures that you have difficulty observing
- Please eat breakfast the morning of your site visit to prevent light-headedness
- Please bring the Job Shadow Documentation form with you on the day of your site visit
- If a student has medical imaging technologist experience, the job shadow can be waived. Students must submit a letter with their MRI application asking for their job shadow to be waived.

Written Expression

This Written Expression is part of the selective admission point scale, and therefore, does affect your prospects for admission into the MRI program. It is to be typed on a separate document and submitted with the program application, due February 1 annually, in order for your application to be considered complete. The Written Expression document should be a maximum of one page in length.

Please write a brief account of:

1. Significant experiences, activities and employment.
2. Your reasons for considering a career in MRI.
3. How your job shadowing experience relates to your reasons for selecting a career in MRI.
4. Your plans and aspirations for the future.

Written Expression Evaluation Rubric (maximum of 15 points possible): Use the following rubric as you compose your written expression. The admissions committee will use this when reviewing your Written Expression document.

Rating Criteria	3 Points	2 Points	1 Point	0 Points
Significant experiences, activities and employment	Describes several pertinent life experiences, or describes a few pertinent life experiences in depth. Well thought out plans and aspirations for future	Briefly describes a few pertinent life experiences. Some thought given to plans and aspirations for the future.	Describes only one or two life experiences. Detail is sparse. Little thought given to plans and aspirations for the future.	No significant experiences, activities, and/or employment described.
Reasons for considering a career in MRI	Provides substantive reasons for considering a career in MRI.	Provides acceptable reasons for considering a career in MRI.	Provides few reasons for considering a career in MRI.	Provides no reasoning for considering a career in MRI.
Relating job shadowing experience to career decision	Provides ample evidence of relating job shadowing experience to career decision.	Provides acceptable evidence of relating job shadowing experience to career decision.	Provides little evidence of relating job shadowing experience to career decision.	Provides no evidence of relating job shadowing experience to career decision.
Writing mechanics	Excellent writing mechanics. 2 or less errors noted.	Acceptable writing mechanics. 3-4 errors noted.	Poor writing mechanics. 5-8 errors noted.	Unacceptable writing mechanics. More than 8 errors noted.
Expression of concepts	Concepts clearly expressed. Thorough but concise.	Concepts expressed in acceptable manner. Thoroughness and/or conciseness slightly lacking.	Concepts expressed poorly. Thoroughness and/or conciseness lacking.	Concepts expressed in unacceptable manner.

Clinical Education Access Requirements

Students formally accepted to the program are required to comply with clinical access requirements prior to and during clinical education placement in a hospital, outpatient clinic, or other clinical education provider. These requirements, according to MiRIS Consortium policies, include:

- Students are required to undergo a physical examination, immunizations, a drug screen and criminal background check.
- Students who have a misdemeanor or felony conviction will also be required to submit a pre-application to the American Registry of Radiologic Technology (ARRT) to determine eligibility to complete the MRI certification exam.
- Students are required to secure and maintain CPR for Health Care Provider certification from the American Heart Association throughout their clinical education participation.
- Students are required to maintain professional liability insurance as required by clinical education providers.
- Students are required to adhere to the uniform and personal appearance standards as required by clinical education providers.

Contact information

Program website: <https://www.micollegesonline.org/mriprogram.html>

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Program

MRI Program

SUGGESTED COURSE SEQUENCE:

Course	Title	Gen Ed	Credit Hours	Contact Hours
BIO 271	Human Anatomy and Physiology I		4	5
MTH 110*	Intermediate Algebra	MA CT	4	4
ENG 101	English Composition I	WR	3	3
HE 102	Medical Terminology		2	2
PS 101	Introduction to Political Science	GP GA	3	3
Semester 1 Total Credit/Contact Hours			16	17
BIO 272	Human Anatomy and Physiology II		4	5
PHY 110	Introduction to Physics		4	5
ENG 102	English Composition II	WR	3	3
SOC 101	Principles of Sociology	GA	3	3
Semester 2 Total Credit/Contact Hours			14	16
MCO Consortium Curriculum:				
MRI 200	Professional Prospectus		1	**
MRI 229	Applied Sectional Anatomy		3	**
MRI 260	Pre-Clinical Preparation		3	**
Semester 3 Total Credit/Contact Hours			7	
MRI 201	Computer Applications in Medical Imaging		3	**
MRI 220	MR Physics I		3	**
MRI 230	MR Procedures & Pathophysiology I		3	**
MRI 261	Clinical Practice I		3	**
Semester 4 Total Credit/Contact Hours			12	
MRI 222	MR Physics II		3	**
MRI 232	MR Procedure & Pathophysiology II		3	**
MRI 240	MR Image Analysis		3	**
MRI 262	Clinical Practice II		3	**
Semester 5 Total Credit/Contact Hours			12	
MRI 263	Clinical Practice III		3	**
MRI 295	MRI Certification Exam Preparation		3	**
Semester 6 Total Credit/Contact Hours			6	
Total Credit/Contact Hours for the Program			67	

* Or MTH 112 or higher

** All MRI courses are delivered through the Michigan Radiologic and Imaging Science (MiRIS) consortium and Michigan Colleges Online (<https://www.micollegesonline.org/mriprogram.html>) and are billed at the Michigan Colleges Online rate. Current rates can be found at: <https://www.micollegesonline.org/courses.html> and clicking on the MCO tuition box.

Upon successful completion of the required courses, all graduation competencies will be satisfied.