

Applicants

The admission process is highly competitive. Each year, hundreds of applicants apply for 20-24 spaces in the program. In all phases of the admission process, points are awarded based on high school grades (or GED scores), college grades and ACT scores. The 35-40 applicants with the most points will be invited for a personal interview. Points are again awarded based on the applicant's interview score. The 18-20 applicants with the highest interview plus academic scores are accepted into the program. Some applicants will be placed on the alternate list. The form we use for this process can be viewed [HERE](#). **Acceptance into the program is contingent upon a negative drug screening and a clear background check before the start of the first semester. The program reserves the right to request random drug screenings after admittance.**

The school reserves the right to change faculty, policies and admission requirements without notice. Updated information will be provided if changes are made. Within 30 days of admission, each student must submit an immunization record and documentation of Hepatitis B vaccination. Because of the possible effects of radiation exposure, each student must execute an informed consent to participate in the program. Because of the possible effects of radiation exposure to a fetus, accepted applicants who are pregnant must be at least six weeks post-partum to start of classes. The program does offer four options to students who become pregnant after acceptance into the program. Contact the program director for details. Each student accepted into the program will also be required to complete CPR certification prior to the start of classes, through the hospital certification program. You will be given a number to call for scheduling the CPR class.

Technical Standards

Technical standards are those standards or abilities that a student must possess to be successful in this profession. All applicants are required to sign a Technical Standards Review Declaration Form to be submitted with application form.

Part of the training in radiologic technology involves working one on one with patients. Student technologists are responsible for the safety and well-being of their patients while performing examinations. The students will also be manipulating equipment where the potential injury to the patient and student is present.

1. Motor Skills

- extend the hands and arms in any direction
- hold, grasp and turn with the hands
- safely lift, manipulate and use equipment
- reach up to six feet off the floor
- ability to coordinate eyes, hands and feet rapidly and accurately
- lift 30-35 lbs. waist high
- push and pull at least 100 lbs.

2. Visual Acuity

- Sufficient far vision to see objects beyond 20 feet
- sufficient near vision to see objects within 20 inches
- depth perception
- see in all directions
- observe and evaluate changes in the patient or equipment

3. Communication Ability

- perceive the nature of sounds through hearing
- be able to speak, hear and observe patients
- express and exchange information through written and verbal communication

4. Behavioral Skills

- Function effectively under stress
- establish sensitive and cooperative relations with patients and co-workers
- adapt to changing environments

** See Admission above regarding Declaration Form**

The Program

The training program consists of 36 additional months of class work and clinical experience under qualified radiologic supervision in addition to the first didactic year at Marshall University or other accredited institution. Designed to enhance the experience of each student, the program provides that each student follows a radiographer's schedule, including evening rotations.

The program provides each student with a total of 90 classroom hours and approximately 1950 hours of clinical experience at St. Mary's Medical Center and other sites. Students gain hands-on clinical experience under the supervision of clinical instructors and staff radiographers. Before assuming responsibility for performing examinations on their own, students must demonstrate competency through performance evaluation and examination.

All new students are evaluated after their first two months with the program. If a student's academic performance is below a 2.5 GPA or the clinical experience is unacceptable, the school could request that the student withdraw from the program at that time. Progression in the program requires the student to maintain a 2.5 GPA. Students who fail to maintain the required average will be placed on academic probation which must be remedied by the mid-term progress of the following semester. Throughout the program, faculty members monitor and advise students on their performance in the classroom and clinical setting. The school upholds strict standards of clinical excellence and professionalism for its students.

In order for a student to be eligible for graduation, they must demonstrate satisfactory completion of all didactic and clinical course work requirements. In addition, students must score 80 percent or better on the exit exam. Upon graduation students are eligible to sit for the ARRT certification exam. Until the year 2015, the successful student may sit for the ARRT certification exam after the completion of the third year coursework.

Students who complete BS degree requirements through Marshall University will be granted a Bachelor of Science in Medical Imaging degree once the applicant has fulfilled all requirements from the School of Medical Imaging. The required courses are listed under Admission. For more information, contact SMMC SOMI at (304)526-1259.

BACHELOR SCIENCE in MEDICAL IMAGING (BSMI)				
Freshman Year				
	Fall Semester		Spring Semester	
	ENG 101 - English Composition I	3	ENG 102 - English Composition II	3
	BSC 227- Human Anatomy	4	BSC 228- Human Physiology	4
	MTH 121/127/130	3	PHY 101- Conceptual Physics (needs PR of MTH 121 or higher)	3
	CHM 203 – General Chemistry	3	PHY 101L – Conceptual Physics Lab	1
	SOC 200 – Introductory Sociology	3	Elective (Med. Terminology recommended)	3
			International Studies Elective(Cultural Anthropology recommended)	3
	Total	16	Total	17
	Summer Semester			
	MI 201 – Intro to Radiography	3		
	TOTAL	3		
Sophomore Year				
	Fall Semester		Spring Semester	
	MI 202 - Patient Care in Imaging Science	3	MI 207 – Imaging Procedures II	3
	MI 203 – Ethical & Legal Principles in Imaging Science	2	MI 208 – Pharmacology & Drug Administration	2
	MI 204 – Radiographic Anatomy	3	MI 209 – Intro to Imaging Equipment	3
	MI 205 – Imaging Procedures	3	MI 210 – Clinical Practice II	4
	MI 206 – Clinical Practice I	4	MI 211 – Seminar in Imaging Science	1
	Total	15	Total	13
	Summer Semester			
	MI 301 – Clinical Practice III	10		
	TOTAL	10		
Junior Year				
	Fall Semester		Spring Semester	
	MI 302 – Principles of Radiation Physics	3	MI 307 – Radiation Protection & Radiobiology	3
	MI 303 – Image Acquisition & Processing	3	MI 308 – Radiographic Image Analysis	2
	MI 304 – Radiographic Pathology	3	MI 309 – Digital Image Acquisition & Display	2
	MI305 – Clinical Practice IV	4	MI 310 – Clinical Practice V	4

	MI 306 – Seminar in Imaging Science	1		
	Total	14	Total	12
	Summer Semester			
	MI 401 – Seminar in Imaging Science	1		
	TOTAL	1		
Senior Year				
CT/MRI ADVANCED PRACTICE TRACK				
	Fall Semester		Spring Semester	
	MI 402 – Quality Management	3	MI 404 – Advanced Sectional Anatomy	3
	MI 403 – Advanced Practice in Medical Imaging	3	MI 405 - CT Proc. & Equip. or MI 406 – MRI Proc. & Equip.	3
	*STATISTICS – see suggestions below or consult advisor	3	MI 409 – Advanced Clinical Practice	4
	Humanities Elective (MU Catalog)	3	MI 410 – Research in Medical Imaging (Capstone Course)	3
	International Studies Elective (MU Catalog)	3	MI 411 – Transcultural Healthcare (Multicultural)	3
	Total	15	Total	16
CARDIOVASCULAR/INTERVENTIONAL ADVANCED PRACTICE TRACK				
	MI 402 – Quality Management	3	MI 407 – Cardiovascular Anatomy & Physiology	3
	MI 403 – Advanced Practice in Medical Imaging	3	MI 408 – Cardiovascular/Interventional Imaging Proc. & Equip.	3
	*STATISTICS – see suggestions below or consult advisor	3	MI 409 - Advanced Clinical Practice	4
	Humanities Elective (MU Catalog)	3	MI 410 - Research in Medical Imaging (Capstone Course)	3
	International Studies Elective (MU Catalog)	3	MI 411 - Transcultural Healthcare (Multicultural)	3
	Total	15	Total	16
MANAGEMENT TRACK				
	MI 402 – Quality Management	3	MGT350 – Health Care Organizations Management (MU Catalog)	3
	MI 403 – Advanced Practice in Medical Imaging	3	MGT 354 – Health Care Delivery Systems (MU Catalog)	3
	*STATISTICS – see suggestions below or consult advisor	3	NUR 415 - Cost-Based Care (MU Catalog)	3
	Humanities Elective (MU Catalog)	3	MI 410 - Research in Medical Imaging (Capstone Course)	3
	International Studies Elective (MU Catalog)	3	MI 411 - Transcultural Healthcare (Multicultural)	3
	Total	15	Total	15

*Suggested statistics classes: MTH 225, SOC 345, and EDF 417

Second Year Curriculum

Semester I (Summer-Fall)

MI 201 Intro to Radiography (3hrs)

Content is designed to provide an overview of the foundations in radiography and the practitioner's role in the health care delivery system. Principles, practices and policies of the health care organization(s) are examined and discussed in addition to the professional responsibilities of the radiographer. Students will become BCLS certified and undergo orientation required by JACHO prior to entering clinical practice. Students will be introduced to the concept of radiation protection for occupational workers, patients, family and visitors. PR: MTH 121, PHY 101, PHY 101L

MI 202 Patient Care in Imaging Science

Content is designed to provide the basic concepts of patient care, including consideration for the physical and psychological needs of the patient and family. Routine and emergency patient care procedures are described, as well as infection control procedures using standard precautions. The role of the radiographer in patient education is identified.

MI 203 Ethical and Legal Principals in Imaging Science (2 Hrs)

Content is designed to provide a fundamental background in ethics. The historical and philosophical bases of ethics, as well as the elements of ethical behavior, are discussed. The student will examine a variety of ethical issues and dilemmas found in clinical practice. An introduction to legal terminology, concepts and principles also will be presented. Topics include misconduct, malpractice, legal and professional standards, the ASRT scope of practice and the ARRT Code of Ethics. The importance of proper documentation and informed consent is emphasized.

MI 204 – Radiographic Anatomy (3 Hrs)

Content is designed to introduce the student to radiographic anatomy. The student will identify anatomical structures depicted on radiographs including film radiography and digital imaging. The student will be introduced to sectional anatomy as demonstrated with computed tomography, magnetic resonance imaging and sonography. Emphasis is placed on identifying structures visible on correctly performed radiographic procedures.

PR: BSC 227, BSC 228: CR : MI 205

MI 205 Imaging Procedures I (3 Hrs)

Content is designed to provide the knowledge base necessary to perform standard imaging procedures. Consideration is given to the evaluation of optimal diagnostic images. Includes a laboratory component. Students will practice imaging procedures in the laboratory prior to performing the procedure on patients. PR: BSC 227, BSC 228, MI 201: CR: MI 204, MI 206

MI 206 – Clinical Practice I (4 Hrs)

Content and clinical practice experiences are designed to sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Through structured, sequential, competency-based clinical assignments, concepts of team practice, patient-centered clinical practice and professional development are discussed, examined and evaluated. Clinical practice experiences are designed to provide patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement ensure the well-being of the patient preparatory to, during and following the radiologic procedure. Students will be assigned a number of mandatory and elective competencies to be completed during each clinical practice course.

PR: MI 201: CR: MI 202, MI 203, MI 205

Semester II (Spring)

MI 207 – Imaging Procedures II (3 Hrs)

Content is designed to provide the knowledge base necessary to perform standard imaging procedures, including basic computed tomography (CT) and special studies. Consideration is given to the evaluation of optimal diagnostic images. Includes a laboratory component. Students will practice imaging procedures in the laboratory prior to performing the procedure on patients. PR: BSC 227, BSC 228, MI 204, MI 205, MI 206: CR: MI 210

MI 208 – Pharmacology and Drug Administration (2 Hr)

Content is designed to provide basic concepts of pharmacology. The theory and practice of basic techniques of venipuncture and administration of diagnostic contrast agents and/or intravenous medications is included. The appropriate delivery of patient care during these procedures is emphasized. Though regulations regarding the administration of contrast media and intravenous medications vary in different states and institutions, the official position of the American Society of Radiologic Technologists is that venipuncture falls within the profession's general scope of practice and practice standards. Therefore, it should be included in the didactic and clinical curriculum with demonstrated competencies of all appropriate disciplines regardless of the state or institution where the curriculum is taught.

PR: BSC 227, MI 202, MI 203, MI 204, proof of BCLS certification.

MI 209 – Introduction to Imaging Equipment (3 Hr)

Content is designed to establish a knowledge base in radiographic, fluoroscopic, mobile and tomographic equipment requirements and design. The content also provides a basic knowledge of quality control and to provide entry-level radiography students with principles related to computed tomography (CT) imaging.

PR: MTH 121, PHY 101, PHY 101L

MI 210 – Clinical Practice II (4 Hrs)

Students will begin clinical practice rotations in computed tomography, radiation oncology, nuclear medicine and cardiovascular procedures as well as diagnostic radiography. Emphasis is placed on achieving competency in mandatory and elective clinical procedures as required for ARRT certification.

PR: MI 206: CR: MI 207, MI 209

MI 211 – Seminar in Imaging Science (1Hr)

Students will research and make short presentations on new developments in imaging science. Emphasis is placed on developing the student's oral communication skills, research skills, and introducing the student to the concept of continuing education as mandated by the ASRT.

Semester III (Summer)**MI 301 – Clinical Practice III (10 Hrs) (Summer)**

Students will continue clinical practice rotations in diagnostic radiography, computed tomography, radiation oncology, nuclear medicine and cardiovascular procedures. Emphasis is placed on achieving competency in mandatory and elective clinical procedures as required for ARRT certification including venipuncture.

PR: MI 206, MI 209, MI 210.

Third Year Curriculum**Semester IV (Fall)****MI 302 – Principles of Radiation Physics (3 Hr)**

Content is designed to establish a basic knowledge of the nature and characteristics of radiation, x-ray production and the fundamentals of photon interactions with matter. The student will be introduced to the concepts of radioactivity including half-life and radioactive decay. This course will provide basic knowledge of principles associated with diagnostic radiography, nuclear medicine imaging and radiation oncology.

PR: CHM 203, PHY 101, PHY 101L, MTH 121, MI 209.

MI 303 – Image Acquisition and Processing (3 Hr)

Content is designed to establish a knowledge base in factors that govern the image production process. Film imaging with related accessories is emphasized. There is a laboratory component to this course. The student will be able to experimentally alter image acquisition factors and evaluate the effects without unnecessary exposure to the patient.

PR: MTH 121, MI 210

MI 304 – Radiographic Pathology (3 Hr)

Content is designed to introduce concepts related to disease and etiological considerations with emphasis on radiographic appearance of disease and impact on exposure factor selection.

PR: BSC 227, BSC 228, MI 204: CR: MI 303

MI 305 – Clinical Practice IV (4 Hr)

Students will continue clinical practice rotations in diagnostic radiography, computed tomography, radiation oncology, nuclear medicine and cardiovascular procedures. Emphasis is placed on achieving competency in mandatory and elective clinical procedures as required for ARRT certification including venipuncture.

PR: MI 301.

MI 306 – Seminar in Imaging Science (1 Hr)

Students will research and make short presentations on advanced practice methodologies in imaging science. Emphasis is placed on developing the student's oral communication skills, research skills, and introducing the student to the concept of continuing education as mandated by the ASRT.

Semester V (Spring)**MI 307 – Radiation Protection and Radiobiology (3 Hr)**

Content is designed to present an overview of the principles of radiation protection, including the responsibilities of the radiographer for patients, personnel and the public. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations are incorporated. The

student will be introduced to the principles of the interaction of radiation with living systems. Radiation effects on molecules, cells, tissues and the body as a whole are presented. Factors affecting biological response are presented, including acute and chronic effects of radiation.
PR: BSC 227, BSC 228, CHM 203, MI 302.

MI 308 – Radiographic Image Analysis (2 Hr)

Content is designed to provide a basis for analyzing radiographic images. Included are the importance of minimum imaging standards, discussion of a problem-solving technique for image evaluation and the factors that can affect image quality. Actual images will be included for analysis.
PR: MI 204, MI 205, MI 208, MI 303, MI 304

MI 309 – Digital Image Acquisition and Display (2 Hr)

Content is designed to impart an understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are discussed. Guidelines for selecting exposure factors and evaluating images within a digital system assist students to bridge between film-based and digital imaging systems. Principles of digital system quality assurance and maintenance are presented.
PR: IT 101, MI 303

MI 310 – Clinical Practice V (4 Hr)

Students will continue clinical practice rotations in diagnostic radiography, computed tomography, radiation oncology, nuclear medicine and cardiovascular procedures. Emphasis is placed on achieving competency in mandatory and elective clinical procedures as required for ARRT certification including venipuncture. Special emphasis is placed on surgical, mobile and emergency radiography.
PR: MI 305

Semester VI (Summer)

MI 401 – Seminar in Imaging Science (1 Hr)

This course introduces the student to ARRT exam taking skills, mock examinations of the ARRT matrix, and self-evaluation studies. Study methods and application are also covered. A study of realistic clinical problems and situations, with emphasis on analyzing and evaluating these problems to formulate acceptable imaging modalities is included. Upon successful completion of the course, including a mock ARRT exit exam, the student will be awarded the Certificate from St. Mary's Medical Center School of Medical Imaging that will allow the student to sit for the ARRT Primary exam in Radiography.

FOURTH YEAR Curriculum (See Chart above for courses for your chosen area of study)

MI 402 – Quality Management (3 Hr)

This course is a core requirement for all students regardless of the Advanced Practice track. Quality management is important to ensure the proper functioning of equipment and compliance with government and accreditation standards. Thus, technologists should have an understanding of the activities and their role in the quality management (QM) process. This content is designed to expand the QM skills of the technologist to include digital imaging systems and the application of QM principles in an imaging department. Course will include review of the ARRT Post-primary exam in QM. Students who select the management track will be expected to initiate procedures outlined in the QM exam content. Candidates for the ARRT Advanced Practice exam are required to perform the required number of repetitions for each procedure. Repetitions must be performed within the 24 month period immediately before submitting the application for certification. Repetitions may be completed in less than 24 months.
PR: ARRT

MI 403 – Advanced Practice in Medical Imaging (3 Hr)

This course is a core requirement for all students regardless of the Advanced Practice track. The focus of the course will include advanced discussion of communication, human diversity including the political context of health care, health care policy formation, health care law and compliance, patient information management and teamwork.
PR: ARRT

MI 404 – Advanced Sectional Anatomy (3 Hr)

The ability to locate and identify structures in the axial (transverse), sagittal, coronal and orthogonal (oblique) planes is critical in all imaging modalities. Volumetric data sets and three-dimensional reconstruction of the body structures are increasingly important to the critical diagnosis and treatment of diseases. To enhance patient care and assist physicians with the prognosis, radiologic science professionals must understand cross-sectional anatomy in each of the imaging modalities. Content will include discussion of advanced pathophysiology.
PR: ARRT: CR: MI 405, MI 407

MI 405 – CT procedures and equipment (3 Hr)

This course will focus on advanced patient care skills including ACLS, imaging procedures and equipment in computed tomography.
PR: ARRT: CR: MI 404, MI 408

MI 406 – MRI procedures and equipment (3 Hr)

This course will focus on advanced patient care skills including ACLS, imaging procedures and equipment in magnetic resonance imaging.
PR: ARRT: CR: MI 404, MI 408

MI 407 – Cardiovascular Anatomy and Physiology (3 Hr)

This course will focus on cardiovascular anatomy and physiology including the heart anatomy and coronary, systemic, pulmonary, peripheral and cerebral circulation. Content will include discussion of advanced pathophysiology relating to the vascular system including cardiac physiology.
PR: ARRT: CR: MI 407, MI 408

MI 408 – Cardiovascular/Interventional Imaging Procedures and Equipment (3 Hr)

This course will focus on advanced patient care skills including ACLS, procedures and equipment utilized in cardiovascular and vascular/interventional imaging.
PR: ARRT: CR: MI 406, MI 408

MI 409 – Advanced Clinical Practice (4 Hr)

Students in advanced clinical practice tracks will be required to complete ACLS certification. Students will be responsible for arranging clinical experience in an approved clinical facility in computed tomography, magnetic resonance imaging, vascular/interventional imaging or cardiac imaging. ARRT advanced practice exams in CT, MRI, VI and CV require that all recorded clinical procedures be completed within 24 months of the exam. Students will be advised of specific exam content.
PR: ARRT, ACLS

MI 410– Research in Medical Imaging (3 Hr) Capstone Course

This course is a core requirement for all students regardless of the Advanced Practice Track. Research methods and information literacy are important because the health care profession is continually changing, which requires the radiologic technologist to possess new knowledge to function competently. The radiologic technologist should contribute to the body of knowledge and be able to effectively analyze resources to promote growth in the profession. The attitude of lifelong learning enables the radiologic technologist to stay in step with the current health care environment and be prepared to help foster the future and increase awareness of the profession in the global community. This content is geared to increase and disseminate intellectual inquiry, information literacy and the use of scholarly research methods.
PR: ARRT, Statistics, MI 402, MI 403. This course will satisfy the Writing Across the Curriculum Requirement.

MI 411-Transcultural Healthcare (3 Hr)

This course is intended to provide an introduction to a culturally comparative analysis of health and healing. Readings provide both comparative ethnographic details and a theoretical framework for organizing and interpreting information about health. Class will meet weekly to discuss assigned readings. It is important that healthcare workers understand the concept of culture as a fluid, permeable, changeable set of collective beliefs, values, and behaviors that inform, shape and constrain the worldviews and personal choices of individuals in healthcare decision making. The course emphasizes a multidisciplinary approach to healthcare that will promote cultural sensitivity toward patients, physicians and healthcare professionals

Family Educational Rights and Privacy Act of 1974

This act was designed to protect the privacy of education records, to establish the rights of students to inspect and review their education records, and to provide guidelines for the correction of inaccurate or misleading data.

Conflict of Conscience

It is the policy of the school that the reasonable and conscientious moral and religious convictions of students will be respected in every way possible. **Students are to make these convictions known at the time of admittance to the School of Medical Imaging.**

Policy Regarding Special Needs

Special testing conditions will be provided only to students with professionally documented special testing needs. It is the student's responsibility to inform all the instructors of each course, within the first 2 weeks, of special testing procedures and any disability requiring special accommodations.

Student Services

Counseling and Advisory Program
Health Services
Student Class Organization
Lambda Nu Honor Society

Tuition:

Fees and expenses specific to the Department of Medical Imaging Programs are in addition to those required by Marshall University. These are subject to change without prior notification. The students are responsible for the purchase/documentation of all vaccinations, paper, notebooks, textbooks, school approved uniforms, shoes, lab coat, and all housing and transportation expenses incurred during clinical internship assignments. Students are also responsible for all fees for criminal background checks, drug-testing, certification examinations and all applicable course fees.

- \$3000/semester
- \$250 deposit due immediately upon acceptance, \$2750 due on the first day of school.
- Failure to pay fees by the scheduled time may result in dismissal from the program.
- Information will be provided in each student's letter of acceptance.
- Tuition is subject to change without notice.*

Refund Policy

The \$250 deposit is non-refundable. If a student withdraws or is dismissed within the first three months there is a \$500 tuition refund. No refunds are given after three months.

Financial Aid

Students may apply for federal student loans or grants through the Marshall University Financial Aid office. Students will be required to register through Marshall University for classes. SMMC SOMI provides information on tuition or fees to Marshall University. SMMC SOMI has no influence regarding the award or denial of federal or state financial aid. SMMC- SOMI will notify MU and the Financial Aid Office if any student voluntarily withdraws or is dismissed from the program. St. Mary's Medical Center School of Medical Imaging is approved for VA funding.

SMMC SOMI Policy: Transfer of Credit Policy and Procedure

Purpose: transfer of individuals into the SOMI. SMMC- SOMI will consider individuals wishing to transfer into the SOMI from another JRCERT accredited program in radiography on an individual basis. Several factors that will be considered include:

- Available clinical space
- Type of program transferring from (Medical Center, college, vocational, military, etc...)
- Academic and clinical courses and competencies completed
- Clinical hours completed
- Other factors deemed necessary

SMMC- SOMI does not guarantee acceptance of transfer students. Acceptance is contingent upon the recommendation of the Admissions Committee. Any student granted transfer into the SOMI will be on probation for two months as would be expected of any beginning student and will be required to complete all clinical and academic requirements set forth by the SOMI director for graduation. adopted: 9-20-99; rvsd 6/27/05; rvsd 7/9/07; 10/9/09