

MARSHFIELD CLINIC HEALTH SYSTEM

SCHOOL OF RADIOGRAPHY

Information & Application Handbook 2019-2020



Marshfield Clinic
Division of Education



Marshfield Clinic
Health System

Thank you for your interest in the School of Radiography at Marshfield Clinic Health System (MCHS). We are pleased that you are considering us in pursuit of your career in the Imaging Sciences. Enclosed in this Application Packet is information about our program, requirements for application, requirements for completion, and contact information should you desire additional details.

We are currently in our 64th year of operation and are fully accredited through the Joint Review Committee On Education in Radiologic Technology (JRCERT), the only agency recognized by the United States Department of Education (USDE) and the Council for Higher Education Accreditation (CHEA), for the accreditation of traditional and distance delivery educational programs in radiography, radiation therapy, magnetic resonance, and medical dosimetry.

The Marshfield Clinic School of Radiography is a 22-month, 5-semester program offering a Certificate in Radiography, which provides its graduates the eligibility to take the ARRT national certification exam in Radiography and secure employment as a competent entry-level Registered Radiologic Technologist. Students interested in our program have two options to apply under; independently with a previously completed Associates Degree from any college, or through a 2+2 program with one of our affiliate universities – Marian University, St. Cloud State University, UW-Oshkosh, or UW-Stevens Point.

The faculty, staff, and administrators of our program are dedicated and committed to preparing the next generation of excellent Registered Radiologic Technologists. Our faculty have impressive clinical backgrounds, commitment to sharing the latest advances in their profession, and a deep respect for students. We work diligently to provide our students with quality didactic and clinical experiences within the classroom, laboratories, and in the healthcare system. Your education at MCHS School of Radiography will be personalized and rewarding, and will occur in a learning environment that is exciting, culturally rich and nurturing. You will find that the School of Radiography exemplifies *people creating possibilities* for a successful future in your chosen health care profession.

Beginning **September 1, 2019** Marshfield Clinic School of Radiography will be accepting applications for the Fall 2020 class (August 2020-May 2022). **Application deadline is December 1, 2019.**

Information contained in this packet is reviewed annually and is subject to change. Please review it carefully and reach out to us if there is any further details we can provide for you, or if you have any questions. We hope this information is helpful to you and hope you choose MCHS School of Radiography in pursuit of your professional career goals. Thank you for your interest, and we wish you much success in your educational journey.

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The Marshfield Clinic Health System School of Radiography offers a challenging and rewarding career opportunity for motivated individuals in the field of Radiologic Technology. The purpose of our school is to contribute to healthcare, practicing radiographers who provide high quality patient care through their performance of competent, safe and courteous related health services.

Radiologic technology combines advanced technology and human compassion. In the full-time School of Radiography, the student receives highly diversified instruction in radiation physics, radiation biology, anatomy, physiology, pathology, and radiologic procedures. Clinical course work includes assignments in general diagnostic procedures and in specialized imaging fields. Through a blend of classroom and clinical training, students learn radiographic equipment operation, patient positioning, radiation safety, and patient care. The MCHS School of Radiography views education as an on-going and multifaceted process of change and growth involving the whole individual. It strives to develop and challenge the student's academic abilities, clinical skills, their commitment to meeting the needs of others, accountability of self and their participation as a health care team member. Graduation from the program prepares students for national and state certification eligibility.

The program began in 1956 and graduated the first class in 1958. Presently graduates compose a large percentage of the Radiographic Imaging staff across the entire Marshfield Health System. Many are employed in medical facilities within the Central Wisconsin area and across the country. With the advent of new imaging modalities in addition to conventional radiography, the radiologic profession has much to offer. MCHS sponsors a Radiography School that affords the student radiographer a wide range of imaging procedures. Radiographers are employed in medical centers, hospitals, imaging centers, outpatient clinics, immediate care centers, physician offices, research facilities, mobile imaging facilities, and in various industrial capacities. The school, its instructors, and its graduates are committed to excellence and maintain a leadership role in the education of future radiologic technologists.

What Is Radiography?

Also known as Radiologic Technology, Radiography is the process or occupation of taking radiographs to assist in medical examinations, and the diagnosis and treatment of disease. Radiography is an Imaging Science technique using x-rays or similar radiation to view the internal parts of the human body.

Radiographers, also known as Radiologic Technologists are medical personnel who are licensed to perform diagnostic radiation imaging examinations to produce radiographic images of the human body for diagnosis and treatment of disease.

For more information on Radiography, please visit <https://www.asrt.org/radcademy/home>

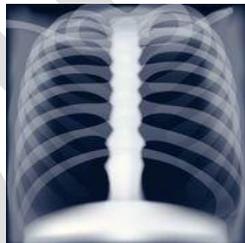
To Become a Licensed Radiologic Technologist/Radiographer

To become a licensed Radiographer, a student must complete one of the two options below:

- Complete an Associates Degree from a regionally accredited College or University,
- Complete a JRCERT-accredited Radiography/Radiologic Technology Program,
- Successfully pass the American Registry of Radiologic Technologists (ARRT) National Certification Licensure Exam

Or,

- Complete a Bachelors Degree from a regionally accredited College or University,
- Complete a JRCERT-accredited Radiography/Radiologic Technology Program,
- Successfully pass the American Registry of Radiologic Technologists (ARRT) National Certification Licensure Exam



Post-Primary Pathways

For students completing the Primary Pathway above (ARRT National Certification in Radiography) that would like to pursue additional credentials specializing in other Imaging Science areas, the following Post-Primary Pathways are available:

- Magnetic Resonance Imaging (MRI)
- Computed Tomography (CT)
- Cardiovascular Interventional Radiography
- Mammography
- Nuclear Medicine
- Radiation Therapy
- Quality Management

For more information, please visit [Careers in Radiologic Technology](#)

Marshfield Clinic School of Radiography

Marshfield Clinic Health System – Department of Education
100 N. Oak Avenue
Marshfield, Wisconsin 54449
PH: (715) 387-9254
[Marshfield Clinic School of Radiography](#)

Marshfield Clinic Health System School of Radiography does not discriminate on the basis of race, sex, sexual orientation, handicap, religion, age, national origin, or veteran status.

All policies, procedures, and tuition costs associated with Marshfield Clinic School of Radiography are subject to change at any time per the discretion of the Program Director or Department of Education Director.

Questions or concerns regarding any of the policies/procedures published in this handbook can be directed to the Marshfield Clinic School of Radiography Program Director.

Sponsoring Institution/Program Officials

Chief Executive Officer/President of Sponsoring Institution
Narayana Murali, M.D., Executive Director

Dean/Administrator
Matthew Jansen, M.D., FACP, Director, Division of Education

Program Director
Krista Lambert, MSSL, BSRT(R)(MR), Director, School of Radiography

Program Faculty
Sheila Gregorich, RT(R), Faculty and Clinical Instructor
Jess Ann Griesbach, RT(R), Clinical Instructor
Shana L. Knauf, RT(R)(M), Clinical Instructor
Vicki J. Larson, RT(R), Clinical Instructor

Clinical Education Sites

Marshfield Health System-Marshfield Medical Center
611 N. Saint Joseph Avenue
Marshfield, WI 54449
(715)387-7184
<https://marshfieldclinic.org>

Marshfield Health System-Marshfield Clinic
1000 N. Oak Avenue
Marshfield, WI 54449
(715)387-9067
<https://marshfieldclinic.org>

Program Accreditation

The Marshfield Clinic School of Radiography is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT) in accordance with the Standards for an Accredited Educational Program in Radiologic Sciences (STANDARDS). The JRCERT promotes excellence in education by elevating the quality and safety of patient care through the accreditation of educational programs in radiography, and is the only agency recognized by the United States Department of Education (USDE) and the Council for Higher Education Accreditation (CHEA), for the accreditation of traditional and distance delivery educational programs in radiography, radiation therapy, magnetic resonance, and medical dosimetry.

The Joint Review Committee on Education in Radiologic Technology STANDARDS for an Accredited Educational Program in Radiography are designed to promote academic excellence, patient safety, and quality healthcare. The STANDARDS require a program to articulate its purposes; to demonstrate that it has adequate human, physical, and financial resources effectively organized for the accomplishment of its purposes; to document its effectiveness in accomplishing these purposes; and to provide assurance that it can continue to meet accreditation standards. The JRCERT accreditation process offers a means of providing assurance to the public that a program meets specific quality standards. The process helps to maintain program quality and stimulates program improvement through program assessment.

It is the policy of the Program that all students be made aware of the STANDARDS and the actions to be taken in the event that any student believes that the Program is not in compliance with the STANDARDS. A copy of the STANDARDS is available for review in the School of Radiography Learning Center, or can be viewing on the JRCERT website.

The Marshfield Clinic School of Radiography completed its most recent JRCERT Site Visit in 2018.

Current Accreditation Award: 5 years. Next scheduled Site Visit: 2024

Accreditation of an educational program provides students the assurance that the education they receive at Marshfield Clinic will provide them with the requisite knowledge, skills, and values to competently perform the range of professional responsibilities expected by potential employers nationwide. It also assures they will be eligible for licensure nation-wide.

JRCERT
20 North Wacker Drive, Suite 2850
Chicago, IL 60606-5300
<http://www.jrcert.org>



JOINT REVIEW COMMITTEE
ON EDUCATION IN
RADIOLOGIC TECHNOLOGY

Academic Calendar

	FALL 2019	FALL 2020	FALL 2021
New Student Orientation	Aug 12-23	Aug 10-21	Aug 9-20
Fall Semester Begins SEMESTER ONE	Aug 26	Aug 24	Aug 23
Labor Day Holiday	Sept 2	Sept 7	Sept 6
Fall Semester Final Exams	Dec 16-20	Dec 14-18	Dec 13-17
Fall Semester Classes End	Dec 20	Dec 18	Dec 17
Christmas Break	Dec 22-Jan 3	Dec 19-Jan 3	Dec 20-Dec 31
Spring Semester Begins SEMESTER TWO	Jan 6	Jan 4	Jan 3
Spring Break	Mar 30-Apr 3	Mar 29-Apr 2	Mar 28-Apr 1
Spring Semester Final Exams	May 11-15	May 10-14	May 9-13
Spring Semester Classes End	May 15	May 14	May 13
Summer Semester Begins SEMESTER THREE	May 18	May 17	May 16
Memorial Day Holiday	May 30	May 31	May 30
4th of July Holiday	July 3	July 5	July 4
Summer Semester Final Exams	Aug 10-14	Aug 9-13	Aug 8-12
Summer Semester Classes End	Aug 14	Aug 13	Aug 12
Summer Break	Aug 17-21	Aug 16-20	Aug 15- 19
Fall Semester Begins SEMESTER FOUR	Aug 24	Aug 23	Aug 22
Labor Day Holiday	Sept 7	Sept 6	Sept 5
Thanksgiving Holiday	Nov 26	Nov 25	Nov 24
Fall Semester Final Exams	Dec 14-18	Dec 13-17	Dec 12-16
Fall Semester Classes End	Dec 18	Dec 17	Dec 16
Christmas Break	Dec 21-Jan 1	Dec 20-Dec 31	Dec 19-30
Spring Semester Begins SEMESTER FIVE	Jan 4	Jan 3	Jan 2
Spring Break	Mar 29-Apr 2	Mar 28-Apr 1	Mar 27-Mar 31
Spring Semester Final Exams	May 10-14	May 9-13	May 8-12
Spring Semester Classes End	May 14	May 13	May 12
ARRT Exam Prep	May 17-21	May 16-20	May 15-19
GRADUATION	May 22	May 21	May 20

Program Overview

The Marshfield Clinic School of Radiography is a 22-month, 5-semester program offering the completion of a Certificate in Radiography, which provides its students an opportunity to become eligible for the ARRT national certification exam in Radiography, secure employment as a competent entry-level radiographer, instill professional values, and encourage lifelong professional growth.

The program will provide students with quality didactic and clinical education, and the community with quality and competent professionals of radiologic technology, through a curriculum that promotes the current practice, guidelines, and standards. Through over 1100 hours of didactic instruction and 1700 clinical hours in multiple departments of Marshfield Clinic Health System, a multi-specialty, trauma level 2 campus, the student will be well prepared for a career as a radiographer.

The School of Radiography curriculum is a unique combination of art and science designed to prepare students for an entry-level career as a radiologic technologist. It is designed to provide students with a fundamental radiographic imaging foundation, which fosters the importance of quality patient care and minimum radiation exposure. The program maintains a comprehensive curriculum, which includes verifying the competence and professionalism of our students. Faculty and staff work together to promote an optimal educational experience for all students, promoting diversity, critical thinking, leadership, and life-long learning and professional development.

Program Philosophy

Diagnostic radiography is among the most rapidly evolving technologies in an ever expanding global healthcare system. The use of x-rays to produce images for the diagnosis of disease requires a thorough knowledge and understanding of anatomy and biological effects of radiation exposure, and having the ability to utilize equipment and computer systems to select technical factors by which such exposures can be minimized, and exemplary images can be produced. In achieving this, our aim is to prepare students to be eligible to sit for the American Registry of Radiologic Technologists examination.

We believe the primary function of the Radiography Program is to produce qualified radiographers, capable of applying scientific and humanitarian knowledge, and able to use sound judgment and acquired skills to provide excellence in patient care, while performing diagnostic procedures and assisting the physician and/or radiologist in specialized diagnostic and therapeutic procedures.

We believe learning is the end product of education and results in observable changes in behavior, attitudes, skill, and understanding. We believe that motivation, readiness, and interest are essential to learning; and that learning occurs best in an atmosphere which provides for close, cooperative instructor-student relationship.

Program Mission Statement

Consistent with the *Marshfield Clinic Mission to enrich lives through accessible, affordable compassionate health care*, the Mission of the Marshfield Clinic School of Radiography is to prepare students to successfully complete the American Registry of Radiologic Technologist (ARRT) national certification exam in Radiography, and to provide the healthcare community with competent, compassionate, entry-level radiographers.

Program Goals

The mission of the Marshfield Clinic School of Radiography is accomplished through the following Program Goals and associated Student and Program Outcomes:

Goals

1. Students will demonstrate the clinical competency required of an entry-level radiographer.
2. Students will communicate effectively with patients and healthcare teams.
3. Students will demonstrate critical thinking and problem solving skills.
4. Students will model professional and ethical behavior.
5. The program will provide students with quality didactic and clinical education, and the healthcare community with competent entry level radiographers.

Outcomes

Student Learning Outcomes:

1. Students will demonstrate the ability to properly operate imaging equipment.
2. Students will determine proper exposure factors to obtain diagnostic quality radiographs.
3. Students will demonstrate proper positioning skills.
4. Students will demonstrate knowledge of radiation protection principles.
5. Students will demonstrate effective oral communication skills.
6. Students will demonstrate written communication skills.
7. Students will provide quality patient care.
8. Students will apply critical thinking skills in the practice of diagnostic radiography.
9. Students will effectively analyze/critique radiographic images for diagnostic quality.
10. Students will demonstrate ethical integrity consistent with the ARRT Code of Ethics.
11. Students will demonstrate professional behavior and values.

Program Outcomes:

1. Graduates of the program will successfully pass the ARRT national certification exam on the 1st attempt
2. Of those pursuing employment, graduates will be gainfully employed within 6 months post-graduation.
3. Students will complete the program within 24 months.
4. Students will be satisfied with their education.
5. Employers will be satisfied with the graduate's performance.

For Program Effectiveness Data, please visit [MC School of Radiography Program Effectiveness](#)

Program Purpose

The Marshfield Clinic School of Radiography supports its mission by preparing graduates to provide quality patient care and assessment, competent performance of radiographic imaging procedures, and radiation safety and protection in the application of ionizing radiation to humans. The educational process is designed as a sequence of instructional and evaluation experiences based on objectives, outcomes, and goals to measure the competency of the learner.

Our purpose is to educate students with the most current knowledge and skills in the science of radiologic technology and to meet the ever changing and complex radiologic and health care needs of our community. We will provide a stimulating learning environment with a technological orientation across the curriculum, which maximizes individual potential and ensures that all students acquire and use knowledge, skills, and professional behaviors to function effectively and meet the challenges of radiologic technology. We are dedicated to ensuring a safe, positive, student centered climate which nurtures problem solving and encourages critical thinking as part of the learning process. Since education is a dynamic process, we will provide a structure which responds to change. Marshfield Clinic School of Radiography is committed to:

- Providing an educational experience that promotes characteristics associated with success.
- Providing a learning environment that recognizes individual differences and promotes caring behavior in the healthcare community.
- Promoting critical thinking skills to effectively address patient care concerns and to adapt to the rapidly changing challenges in healthcare.
- Developing and challenging the student's academic abilities, clinical skills, and their commitment to meeting the needs of others.
- Providing graduates with a strong educational foundation for lifelong personal and professional growth.



Program Curriculum & Course Sequence

The Marshfield Clinic School of Radiography Curriculum and Course Sequence is listed on the following page. This curriculum and subsequent program courses are evaluated yearly and are subject to change. The following curriculum reflects the *most current* academic course sequence at time of public posting.

	Course Title	Class Hours Per Week	Lab Hours Per Week	Clinical Hours Per Week	Total Hours Per Week	Total Hours Per Semester	
First Year Semester One (Fall Semester) *17 Weeks							
■ RAD	Introduction to Radiologic Sciences	3	0	0	3	51	
■ RAD	Radiographic Procedures I	4	3	0	7	119	
■ RAD	Medical Terminology	1	0	0	1	17	
■ RAD	Radiographic Imaging I	3	1	0	4	68	
■ RAD	RAD Clinical Education I (9hrs:2d/wk)	0	0	18	18	306	
	Total	11	4	18	33	561	
First Year Semester Two (Spring Semester) *18 Weeks							
■ RAD	Patient Care in Radiography	3	0	0	3	54	
■ RAD	Radiographic Procedures II	4	3	0	7	126	
■ RAD	Imaging Analysis I	2	1	0	3	54	
■ RAD	Radiographic Physics	3	0	0	3	54	
■ RAD	RAD Clinical Education II (9hrs:2d/wk)	0	0	18	18	324	
	Total	12	4	18	34	612	
First Year Semester Three (Summer Semester) *13 Weeks							
■ RAD	Radiographic Imaging II	3	0	0	3	39	
■ RAD	Radiographic Procedures III	4	3	0	7	91	
■ RAD	Imaging Analysis II	2	1	0	3	39	
■ RAD	RAD Clinical Education III (8hrs:3d/wk)	0	0	24	24	312	
	Total	9	4	24	37	481	
Second Year Semester Four (Fall Semester)*17 Weeks							
■ RAD	Digital Imaging Equipment & Analysis	3	0	0	3	51	
■ RAD	Radiographic Procedures IV	3	2	0	5	85	
■ RAD	Imaging Analysis III	2	1	0	3	51	
■ RAD	Cross Sectional Imaging	1	0	0	1	17	
■ RAD	RAD Clinical Education IV (8hrs:3d/wk)	0	0	24	24	408	
	Total	9	3	24	36	612	
Second Year Semester Five (Spring Semester) *18 Weeks							
■ RAD	Advanced Imaging Modalities & QC	2	0	0	2	36	
■ RAD	Radiation Biology & Protection	3	0	0	3	54	
■ RAD	Radiographic Pathology	2	0	0	2	36	
■ RAD	Comprehensive Registry Review	3	2	0	5	90	
■ RAD	RAD Clinical Education V (8hrs:3d/wk)	0	0	24	24	432	
	Total	10	2	24	36	648	
Total Hours in Program:		Class: 1132		Clinical: 1782			

Program Course Descriptions

Introduction to Radiologic Sciences

This course is designed to provide an overview of the foundations of Radiography and the radiographer's role in the health care delivery system. Principles, practices, and policies of the health care organizations will be examined and discussed in addition to the professional responsibilities of the radiographer. Topical areas include organization of the radiology department, academic and administrative structure, key departments and personnel, credentialing, and professional development. Content also provides the basic concepts of radiographic quality, basic principles of radiation protection, and a foundation in ethics, ethical behavior, and ethical law related to the practice of medical imaging, and will examine a variety of ethical and legal issues found in healthcare. Pre-requisite: Program Admission; Co-requisite: Medical Terminology

Radiographic Procedures I

This course provides the student with a basic understanding of the practices and principles required to perform routine radiographic procedures of body systems. It introduces the student to basic positioning terminology to include general terminology, body planes and surfaces, positioning landmarks, and relationships related to the placement of anatomy to obtain a radiographic image. The student will develop the knowledge and skills of the structure, function and positioning procedures for the chest, abdomen, upper extremity, and shoulder girdle. This course deals with the principles needed to perform routine radiographic procedures of these systems. Anatomy, positioning techniques, technical factors, equipment usage, and film critique are included. This course consists of lecture and laboratory demonstrations concerning the systems covered. Co-requisite: Intro to Rad Sciences, Medical Terminology

Medical Terminology

This course provides a study of the principles of medical word building to help the student develop the extensive medical vocabulary used in health care occupations. Students receive a thorough grounding in basic medical terminology through a study of root words, prefixes and suffixes. The study focuses on correct pronunciation, spelling and use of medical terms. Co-requisite: Intro to Rad Sciences, Medical Terminology

Radiographic Imaging I

This course establishes a knowledge base in factors that govern the acquisition and production of a radiographic image. Content is designed to provide a basis for analyzing radiographic images, with an emphasis on image quality through presentations of prime technical exposure factors that can affect radiographic image quality. Included in this course is the importance of minimum imaging standards and discussion of a problem-solving techniques for image evaluation. Topics include density, contrast, detail, and distortion. For a thorough understanding of proper image quality, actual images will be included for analysis. Co-requisite: Intro to Rad Sciences, Medical Terminology

Radiography Clinical Education I

The first of five clinical education courses, this practical experience is 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, students begin practicing and performing the clinical competency exams required by the American Registry of Radiologic Technologists (ARRT). Concepts of team practice, patient-centered clinical practice, and professional development are examined and evaluated. Students are assigned to various designated clinical education rotations designed to provide patient care and assessment, competent performance of radiologic imaging, radiation safety, and total quality management. Levels of competency and outcomes of each student will be measured preparatory to, during, and following the radiologic procedure. Co-requisite: Intro to Rad Sciences, Rad Procedures

Patient Care in Radiography

This course provides the concepts of optimal patient care practices, including consideration for the physical and psychological needs of the patient and family. The role of the radiographer in patient care, routine and emergency patient care procedures, and infection control procedures using standard precautions are identified. Content provides basic concepts of pharmacology, venipuncture, and administration of diagnostic contrast agents and/or intravenous medications. The appropriate delivery of patient care during these procedures is emphasized. Activities are provided to demonstrate basic concepts of patient transfer, vital signs, aseptic technique, infection control, and other subject matter pertinent to aiding the patient in their ascent to better health. Pre-requisite: Intro to Rad Sciences

Radiographic Procedures II

In this course the student will develop the knowledge and skills of the structure and function and positioning procedures for the shoulder girdle, lower extremity, and pelvis. This course deals with the principles needed to perform routine radiographic procedures of these systems. Anatomy, positioning techniques, technical factors, equipment usage, and film critique is included. This course consists of lecture and laboratory demonstrations concerning the systems covered. Pre-requisite: Rad Procedures I

Radiographic Physics

This course establishes the basic knowledge of radiographic physics. It introduces the fundamentals of atomic structure and terminology, and the principles of production, characteristics, and control of radiation applicable to diagnostic radiology. It includes the nature and characteristics of radiation and the fundamentals of photon interactions with matter. Topics also include electromagnetic radiation, electricity, magnetism, electromagnetism, radiation generators/circuitry, and the x-ray imaging system. Pre-requisite: Intro to Rad Sciences; Co-requisite: Rad Imaging I

Radiography Clinical Education II

The second of five clinical education courses, this practical experience is designed to continue to develop, apply, critically analyze, integrate, synthesize, and evaluate concepts and theories in the performance of radiologic procedures. Through structured, sequential, competency-based clinical assignments, students continue practicing and performing the clinical competency exams required by the American Registry of Radiologic Technologists (ARRT). Concepts of team practice, patient-centered clinical practice, and professional development are examined and evaluated. Students are assigned to various designated clinical education sites designed to provide patient care and assessment, competent performance of radiologic imaging, radiation safety, and total quality management. Levels of competency and outcomes of each student will be measured preparatory to, during, and following the radiologic procedure. Pre-requisite: Rad Clinical Education I

Radiographic Procedures III

In this course the student will develop the knowledge and skills of the structure and function and positioning procedures for the vertebral column, sacrum, coccyx, bony thorax, ribs, and biliary tract. This course deals with the principles needed to perform routine radiographic procedures of these systems. Anatomy, positioning techniques, technical factors, equipment usage, and film critique is included. This course consists of lecture and laboratory demonstrations concerning the systems covered. Pre-requisite: Rad Procedures II

Radiographic Imaging II

This course continues a knowledge base in factors that govern the acquisition and production of a radiographic image. Content includes scatter control, image receptor systems, and imparts an introduction to the components of digital imaging systems found in diagnostic radiology. The student will also explore radiation-producing equipment routinely used to produce diagnostic images. Emphasis is on x-ray production, general and digital fluoroscopy, automatic exposure control, grids, beam limitation devices, and digital image receptors. Upon completion, students should be able to demonstrate the principles of selection and usage of imaging accessories to produce quality images. Pre-requisites: Radiographic Physics, Rad Imaging I

Radiography Clinical Education III

The third of five clinical education courses, this practical experience is designed to continue to develop, apply, critically analyze, integrate, synthesize, and evaluate concepts and theories in the performance of radiologic procedures. Through structured, sequential, competency-based clinical assignments, students continue practicing and performing the clinical competency exams required by the American Registry of Radiologic Technologists (ARRT). Concepts of team practice, patient-centered clinical practice, and professional development are examined and evaluated. Students are assigned to various designated clinical education sites designed to provide patient care and assessment, competent performance of radiologic imaging, radiation safety, and total quality management. Levels of competency and outcomes of each student will be measured preparatory to, during, and following the radiologic procedure. Pre-requisites: Rad Clinical Education II

Digital Imaging Equipment & Analysis

This course continues a comprehensive 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. It includes a study of the design and function of Computed Radiography (CR), Digital Radiography (DR), digital imaging workstations, and Picture Archiving and Communications Systems (PACS). Discussion also includes image acquisition procedures and methods of evaluating radiographic systems to assure consistency in the production of quality images. Pre-requisite: Principles of Imaging Equipment

Radiographic Procedures IV

In this course the student will develop the knowledge and skills of the structure and function and positioning procedures for the upper and lower gastrointestinal systems, urinary system, the paranasal sinuses, facial bones, and skull. This course deals with the principles needed to perform routine radiographic procedures of these systems. Anatomy, positioning techniques, technical factors, equipment usage, and film critique is included. Included in this course are modifications and critical thinking procedures used during emergency and trauma situations. This course consists of lecture and laboratory demonstrations concerning the systems covered. Pre-requisite: Rad Procedures III

Radiography Clinical Education IV

The fourth of five clinical education courses, this practical experience is designed to continue to develop, apply, critically analyze, integrate, synthesize, and evaluate concepts and theories in the performance of radiologic procedures. Through structured, sequential, competency-based clinical assignments, students continue practicing and performing the clinical competency exams required by the American Registry of Radiologic Technologists (ARRT). Concepts of team practice, patient-centered clinical practice, and professional development are examined and evaluated. Students are assigned to various designated clinical education sites designed to provide patient care and assessment, competent performance of radiologic imaging, radiation safety, and total quality management. Levels of competency and outcomes of each student will be measured preparatory to, during, and following the radiologic procedure. Pre-requisites: Rad Clinical Education III

Advanced Radiographic Imaging & QC

This course presents an overview of advanced topics in diagnostic and clinical imaging modalities with an emphasis on clinically relevant modalities. Modalities include fluoroscopy, computed tomography, nuclear medicine imaging, mammography, magnetic resonance imaging, ultrasound, interventional radiography, and positron emission tomography. This course is also designed to examine the effective functioning of a radiology department. Methods for evaluating quality, equipment testing and documentation will be discussed, as well as the role of the registered radiographer in maintaining quality.

Cross Sectional Imaging

This course is a study of human anatomy from a sectional perspective. The anatomy of the head, neck, thorax, abdomen, pelvis and vertebral column are studied. This anatomy is related to the use of computer-assisted imaging modalities. Instruction incorporates CT and MR images. Common pathological findings in each area are discussed.

Radiographic Pathology

This course will provide the student with the concepts of disease and its effects and etiological considerations on the human body. Pathology and diseases as they relate to various radiographic procedures and radiographs will be discussed along with the impact on exposure factor selection. Students will participate in an individual research project and presentation of a disease process approved by the course instructor. Pre-requisite: Rad Procedures IV

Imaging Analysis I-IV

These courses require students to analyze all technical aspects of radiographic image production and use problem-solving skills to determine proper corrections required for unacceptable radiographs. This course will provide the student with the knowledge to evaluate radiographic images. Requirements will focus on the ability to identify and recognize diagnostic quality. Advancement in examination difficulty and complexity will be reflected.

Radiography Clinical Education V

The last of five clinical education courses, this clinical course provides the student with the opportunity to function more independently in all areas of basic radiography, and begins to emphasize the development of independence, discretion, and judgment while performing basic radiographic procedures. It provides the student with the opportunity to function as a nearly registry-eligible radiographer. The student is expected to correlate all clinical and didactic experiences while demonstrating a high degree of proficiency and efficiency. Concepts of team practice, patient-centered clinical practice, and professional development are expected at highest levels and are evaluated accordingly. This clinical experience provides the final opportunity for an introduction to special imaging modalities by scheduling rotations through CT, MRI, Sonography, Nuclear Medicine, Cardiac Catheterization/Interventional Radiography, and Radiation Therapy. Levels of competency and outcomes of each student will be measured preparatory to, during, and following the radiologic procedure. Pre-requisite: Rad Clinical Education IV

Radiation Biology & Protection

This course provides an overview of the principles of the interaction of radiation with living systems and describes various radiation protection methods. Radiation effects on molecules, cells, tissues and the body as a whole are presented. Factors affecting biological response are presented, including factors affecting cell response to acute and chronic results of radiation. Cell survival, genetic mutation, somatic and genetic effects of radiation, response to radiation of various tissues, and radiation syndromes are covered. Content presents 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. Students will complete a scholarly research paper on an approved radiobiological topic approved by the course instructor. Pre-requisite: Radiographic Physics

Comprehensive Registry Review

This is a capstone course learning experience offering a comprehensive review intended to serve as preparation for the national examination in Radiography given by the American Registry of Radiologic Technologists (ARRT). Review of the five categories specific to the ARRT's content specifications for the exam in radiography will be presented through examination of text information and test results. Students will complete Content Area Examination (CAE) tests over each section of study presented in the ARRT registry certification and several composite "mock" ARRT exams that simulate the national examination covering the content specifications as determined by the ARRT. Pre-requisites: (All previous Core Courses)

Advanced Placement

Due to the sequential nature of all radiography didactic and clinical courses, as well as limited number of students, Marshfield Clinic School of Radiography *does not* accept transfer credits for radiography course work or clinical experience from any other radiography/radiologic technology program. If an individual that has completed credits from another radiography program and intends to apply to the Marshfield Clinic School of Radiography, they must apply for selection as all other applicants and complete all radiography courses and clinical in the same curriculum sequence.

Student Maximum Hours

Students in the Radiography program at no time will be scheduled more than 40 hours per week of combined clinical and didactic hours.

In addition to day shift clinical rotations, students will also have scheduled rotations on weekends, as well as afternoon and evening shift work throughout their enrollment in the program. A schedule of clinical rotations will be provided to them in advance indicating their clinical rotations for each semester. Weekend and evening rotations provide students with the possibility for more exposure to trauma/mobile procedures and enables students to assess the various shift atmospheres in which they may be employed upon program completion. Weekend and evening hours will equal the same hours as a regular clinical day shift for that current semester.

Clinical Education

The clinical education portion of the program provides a means for the student to acquire the skills necessary to perform the duties of an entry-level technologist. The purpose of clinical assignments is to allow the student opportunity to apply theoretical principles of radiography, patient care, and department procedures to practical experience. The student will have the status of learner and will not replace department personnel.

All students will rotate through the program's clinical education sites throughout their enrollment in the program, which ensures a wide variety of clinical experiences. The current clinical sites are **Marshfield Clinic** and **Marshfield Medical Center**, located at 1000 N. Oak Avenue, Marshfield, WI 54449. Each clinical education site has a designated clinical instructor/preceptor. **If at any time a student is prohibited from performing clinical duties at any of the program clinical sites, the student will no longer be eligible to continue in the program.**

Students will be scheduled for approximately **18 hours per week of clinical time** during the **first (1st) and second (2nd) semesters** of the program, on **Tuesdays and Thursdays**; and approximately **24 hours per week of clinical time** during the **third (3rd), fourth (4th), and fifth (5th) semesters** of the program, on **Mondays, Wednesdays, and Fridays**. Students will be required to attend early morning, day, afternoon, and evening shift clinical rotations while enrolled in the program. Students will also be scheduled weekend rotations during enrollment in the program. *Students will not be required to complete more than 25% of their total clinical time during the evening/overnight hours of 7:00pm – 5:30am or weekend hours at any time during the program.* The Radiography Program reserves the right to make changes to clinical rotation times as deemed appropriate for quality clinical education, adequate procedure, and competency completion. However, **at no time will a student be scheduled more than 40 hours per week of combined clinical and didactic hours.**

Modality Rotations

Throughout enrollment in the program, students are provided the opportunity to observe specialized Imaging areas (modalities) which include **Nuclear Medicine, Radiation Therapy, Computed Tomography, MRI, Interventional Procedures, Mammography, and Ultrasound**. Please refer to the policy below for mammography rotations.

The purpose of the modality rotations is to provide the students with an introductory experience to each related modality and provide a basic understanding as to how each modality plays a role in diagnostic and therapeutic imaging. In addition, students will be apprised to the advanced imaging career opportunities within the field of Radiography. Additional rotations will only be allowed if the student is meeting all clinical requirements and is in good academic standing in regards to clinical requirements and competencies

Clinical Competency Development

The radiography curriculum is founded on principles of Competency-Based Education (CBE) and designed to develop knowledge, skills, and attitudes. The educational experiences are directed toward preparing individuals to perform pre-specified tasks of an occupation or profession under “real world conditions” and to perform these tasks at a level of accuracy and speed required of radiographers on the job. The goal of clinical educations is to allow students to achieve competence in the responsibilities of the profession before leaving the education program.

Clinical experiences are arranged in a sequential manner and proceed to a new experience only when the student has achieved the specified level of competence in the previous task. Continuous evaluation and reinforcement of student performance is critical in CBE. The students participate by: (1) assisting a practicing technologist and observing details of a procedure (2) performing various tasks after becoming familiar with them (3) progressing into more independent phase of performance. This means that the student will perform the task or procedure under supervision of the technologist. During each step, the student’s ability and performance are evaluated.

ARRT Competency Requirements

Before a student can apply for certification and registration, he/she must fulfill a range of requirements. Two of those requirements are to 1) demonstrate competence in an ARRT-specified list of clinical procedures (clinical competency requirements) and 2) complete relevant coursework (didactic requirements) for Radiography. These requirements are completed while enrolled in Marshfield Clinic School of Radiography.

To review the Didactic and Clinical Competency Requirements for Radiography, please visit:

[ARRT Radiography Clinical And Didactic Competency Requirements](#)



Semester Weekly Schedules

The Marshfield School of Radiography Curriculum and Semester Schedules are reviewed annually and are **subject to change**. The current Semester Weekly Schedules reflect the *most current* academic term at time of public posting. This schedule is provided for the 2019-2020 academic year. **Students are required to be present for all scheduled class and clinical rotations.**

For the **first and second semesters** of the program, Junior students will be scheduled for **academic classes on Monday, Wednesday, and Friday**, between the hours of 7:00am and 5:00pm. Classes will total approximately 15-16 hours per week. **Clinical rotations will be scheduled on Tuesday and Thursday**. Individual rotation times will vary (see Clinical Education Section) but will be approximately 18 hours per week.

For the **third, fourth, and fifth semesters** of the program, Senior students will be scheduled for **academic classes on Tuesday and Thursday**, between the hours of 7:00am and 5:00pm. Classes will total approximately 12-13 hours per week. **Clinical rotations will be scheduled on Monday, Wednesday, and Friday**. Individual rotation times will vary (see Clinical Education Section) but will be approximately 24 hours per week.

JUNIOR FALL & SPRING SCHEDULE					
TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
7:00 AM					
7:30 AM					
8:00 AM					
8:30 AM					
9:00 AM					
9:30 AM					
10:00 AM					
10:30 AM					
11:00 AM	CLASS DAY Classes held between 7:00am and 5:00pm	CLINICAL DAY Rotation Times Vary	CLASS DAY Classes held between 7:00am and 5:00pm	CLINICAL DAY Rotation Times Vary	CLASS DAY Classes held between 7:00am and 5:00pm
11:30 AM					
12:00 PM					
12:30 PM					
1:00 PM					
1:30 PM					
2:00 PM					
2:30 PM					
3:00 PM					
3:30 PM					
4:00 PM					
4:30 PM					

SENIOR SUMMER, FALL, AND SPRING SCHEDULE					
TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
7:00 AM					
7:30 AM					
8:00 AM					
8:30 AM					
9:00 AM					
9:30 AM					
10:00 AM					
10:30 AM					
11:00 AM	CLINICAL DAY Rotation Times Vary	CLASS DAY Classes held between 7:00am and 5:00pm	CLINICAL DAY Rotation Times Vary	CLASS DAY Classes held between 7:00am and 5:00pm	CLINICAL DAY Rotation Times Vary
11:30 AM					
12:00 PM					
12:30 PM					
1:00 PM					
1:30 PM					
2:00 PM					
2:30 PM					
3:00 PM					
3:30 PM					
4:00 PM					
4:30 PM					

Certification/Licensure

American Registry of Radiologic Technologists (ARRT)

Upon completion of the program, graduates that have met the professional educational requirements for certification by the ARRT are eligible to sit for the national certification examination. Graduates apply for examination up to three months prior to program completion. When all program requirements have been met at the end of the 22-month program, graduates can take the ARRT exam immediately following program completion (if they have been awarded their affiliate University degree). Graduates that have met the credential requirements, pass the ARRT examination, and are in compliance with all ethical standards, are awarded the credentials of R.T. (R) – Registered Radiologic Technologist.

The American Registry of Radiologic Technologists (ARRT) is the world's largest credentialing organization that seeks to ensure high quality patient care in radiologic technology. Students may access exam pre-requisites, content specifications, and educational opportunities at:

ARRT
1255 Northland Drive.
St. Paul, MN 55120
(651)687-0048
<https://www.arrt.org>

General qualifications for certification eligibility by the ARRT also require that candidates be of good moral character. If an applicant has been convicted of misdemeanor charges, a felony offense, military court martial, or honor code violations, they may elect to visit the ARRT website and complete an "Ethics Review Pre-Application Packet." This process will require court documents and evidence of having served the entire sentence, including probation and parole, with restoration of civil rights before being admitted to the certification exam. Students who have had previous convictions may apply to ARRT for precertification prior to program registration. Enrolled students may complete an ethics review up to six months prior to graduation. This review process assures that the learner will be eligible to sit for the certification examination upon program completion.

Wisconsin State Licensure

In 2010, Wisconsin enacted a law which establishes licensing and permitting requirements for those who perform medical radiography or provide medical radiographic services. The 2009 Wisconsin Act 106, Chapter 462 of the Wisconsin statutes, requires that any person, who performs radiography or operates an X-ray machine or X-ray equipment, shall obtain a license to perform radiography. Students enrolled in an accredited radiography program may operate X-ray machines under the supervision of a credentialed and licensed Radiographer. Students may not be employed to operate an X-ray machine during the education process. Upon graduation, the new ARRT registered technologist may apply for a state of Wisconsin license with proof of active ARRT certification and pay the required fees for the state license. Additional details can be found at <http://dsps.wi.gov>, Wisconsin Department of Safety and Professional Services, under Professions->Radiographer, Licensed.

Lambda Nu National Honor Society

Wisconsin Sigma Phi Chapter, Lambda Nu National Honor Society



Lambda Nu is the National Honor Society for the Radiologic and Imaging Sciences. Marshfield Clinic School of Radiography is proud to sponsor its own Chapter of the Lambda Nu, the Wisconsin Sigma Phi Chapter. The purpose of this Chapter is to:

- ❖ Foster academic scholarship at the highest academic levels
- ❖ Promote research and investigation in the radiologic and imaging sciences
- ❖ Recognize exemplary scholarship

Radiography students and alumni can qualify for membership according to the following standards:

- Enrollment in the MCHS School of Radiography program for a minimum of two consecutive semesters as a full-time student, and
- Completion of a minimum of two successive semesters with 3.5GPA total, or higher, in MCHS radiography courses, and
- Evidence of professional commitment beyond minimum requirements of the program, including but not limited to (with prior Program Director approval):
 - Active INDIVIDUAL participation and completion of competition project at the WAERT (Wisconsin Association of Educators in Radiologic Technology) Student Symposium, as evidenced by the following:
 - Video, Essay, Presentation, Computer, or Scientific (admin approved in advance) and
 - Participating in the student quiz bowl completion

OR

- Two documented community service projects. (8 hours minimum total-4 hours each)
 - Events must be pre-approved by Program Director
 - 4 hours must be completed actively participating in the “event,” and does not include preparation, planning, etc. Must submit documentation and proof of active 4hr participation

OR

- Actively pursuing an independent research project with presentation.
 - Written Research: Eight (8) page body minimum, with proper citations. Pathology or procedure related to Radiology, and
 - Oral presentation: PowerPoint (Slide Presentation) to class, clinical preceptors, technologists at SOR meeting.

All members must register and pay national dues as well as meet all Chapter obligations.

Program Tuition and Segregated Program Fees

Effective July 1, 2019, Tuition for the School of Radiography 2019-2020 Academic Year is \$6,000 per year (August 2019-July 2020).

Tuition costs are evaluated each July and subject to an annual increase at that time.

Effective July 1, 2019, Segregated Program Fees for the School of Radiography 2019-2020 Academic Year are \$425.00 (\$150 due the Fall of the first semester, \$275 due the Fall of the fourth semester).

Segregated Program fees are evaluated each July and subject to an annual increase at that time. Upgrades or additions to services are at the discretion of the Program Director and selected based on best practices for the success of the student.

Segregated Program Fees are required fees to be paid by each student and are associated with labs, computers, educational resources, and professional growth. These are not part of tuition costs, and are the financial responsibility of each student.

Optional Fees

Optional Additional fees are possible throughout the program to cover voluntary costs such as professional development and student events/conferences.

Student Resources

Financial Aid

The School of Radiography does not offer financial aid; however, university affiliation enrollment students may use their financial aid through their university to help pay for tuition. Students are encouraged to contact their affiliate university financial aid office for information.

Students are also recommended to visit www.fastweb.com to search and apply for scholarship opportunities.



Radiography Program Progression Standards

Marshfield Clinic Radiography students must follow the curriculum sequence. Students cannot withdraw from any Radiography course. In doing so, the student will no longer be eligible to continue in the program.

The Marshfield Clinic Radiography student must meet the following criteria to continue enrollment at any time:

- 1. Must complete each semester requirement completely before progressing to the next semester. An incomplete in any course must be completed within 15 days of the start of the next semester, meeting all objectives.** If a student does not meet the requirements for completion of semester within 15 days, the student will be withdrawn from the program. Students may choose to reapply to the program (as a new applicant) the following academic year, but must complete all courses in sequence again, and are not guaranteed acceptance.
- 2. Must achieve a letter grade of “B” (85%) or above in each Radiographic Procedures and Lab, and Clinical Radiography, and a letter grade of “C” (77%) in all other courses in order to progress.** If a student fails to achieve this it will result in academic probation for the first offense (any course), and termination from the program for the second offense (any course). Radiography courses cannot be repeated if the minimum is not achieved. Students may choose to reapply to the program the following academic year, but must complete all courses in sequence again, and are not guaranteed acceptance.
- 3. The student must demonstrate progression with clinical exam competencies.** The program requires a specified minimum number of competency completions per semester. If a student fails to complete the minimum competencies required in a given semester more than twice during the program at any time (2 semesters), the student will be placed on academic probation. If a student fails to complete the required competencies a third time (3rd semester) the student will be dismissed from the program.
- 4. The student must demonstrate progression with written cognitive competency exams.** The program requires students to maintain a cognitive comprehension of the Radiography Curriculum, demonstrated by issuing a written competency exam at the end of each semester. The student **must** pass each written competency examination with a **minimum score of 77%**. In the event a student does not pass, the student is placed on academic probation and given the opportunity to take a repeat different, but comparable, test. The student **must** pass this repeat test with a **minimum score of 77%**. Successful completion of the repeat test is mandatory to remain in the program. Failure to pass the repeat test will result in dismissal from the program. A failing grade on a written comprehensive competency exam will only be allowed two (2) times during enrollment of the entire program. A third (3rd) failure will result in termination of the program.
- 5. The student must complete all required clinical hours as scheduled.**
- 6. The student must complete all clinical and didactic objectives before progressing on to the next semester.**
- 7. The student must exhibit ethical and professional conduct at all times as outlined in the professional code of ethics.**
- 8. The student must abide by all program and clinical site policies and procedures.**
- 9. The student must be eligible to participate and complete all clinical duties at all clinical education sites.**
If a student is prohibited from attending clinical at any of the clinical education sites for any reason, they will be dismissed from the program.
- 10. The student must maintain professional and behavioral standards appropriate to the profession in both the didactic and clinical setting.**

Technical Standards for Student Radiographers

The following requirements are necessary to perform as a Radiography student. All selected students in the Marshfield Clinic School of Radiography program must possess the following:

1. Sufficient verbal and written skills in order to respond to other members of the healthcare team.
2. Sufficient visual ability to view patient/exam orders, as well as additional patient information with charts (including electronic charts) and radiographic images. Sufficient vision required to observe patient conditions in regards to patient safety.
3. Must possess sufficient hearing in order to interact, communicate and respond to patients and hear audible sounds related to various medical equipment.
4. The ability to stand and remain ambulatory for approximately 80% of the clinical time.
5. Intellectual and emotional skills to exercise discretion in handling confidential medical information.
6. Cognitive ability to perceive and deal appropriately with environmental threats and stresses and continue to function safely and effectively during stressful situations.
7. The ability to protect self, patients and other members of the healthcare team from infectious disease by understanding the basic concepts of infection control/standard precautions.

The student must be able to perform all motor skills necessary to execute all radiologic examinations.

1. The student must be physically able to lift, move and transfer patients.
2. The student must be physically able to lift and carry image receptors.
3. The student must be physically able to manipulate and move all mobile x-ray units.
4. The student must be able to fulfill any additional physical requirements essential to complete the course of training.

Graduation Requirements

The Marshfield Clinic Health System Certificate Degree in Radiography is awarded to students with the below criteria:

1. **The student must achieve a letter grade of "B" or above in each Radiographic Procedures/Lab and Clinical course comprising the program.**
2. **The students must achieve a letter grade of "C" or above in all other courses comprising the program.**
3. **The student must fulfill all program course requirements.**
4. **The student must complete all clinical assignments/hours as scheduled.**
5. **All American Registry of Radiologic Technology (ARRT) clinical competencies must be met.**
6. **Program completion must be within 150% of program length. If a student requests a leave of absence for non-academic reasons and the leave is approved, it will be for a total of one year. The student must resume attendance at the beginning of the semester in which the leave was granted and demonstrate continuous enrollment thereafter for completion. Competency of all previously completed subject areas, content, and procedures must be re-evaluated and successfully achieved with minimum requirements in order to resume.**

Student will be required to be re-evaluated prior to re-entry and re-entry is dependent on available space; not to exceed class capacity. *Approval for re-entry in the program following a Leave Of Absence will not be granted if the student was not in good academic standing prior to leave request.*

The student must complete all program requirements for ARRT Radiography exam certification.

Grading Scale

All didactic (lecture/lab) and clinical education courses must be taken in sequence. **A minimum grade of “B” is required in all Radiographic Procedures/Lab and Clinical courses, and a minimum grade of “C” is required in all other courses within the Radiography Program Curriculum.**

The grading scale for the Radiography Program is as follows:

93% -100% = A

85% -92 = B

77% -84 = C

69% -76 = D

< 68% = F

Program Policies and Procedures

The Marshfield Clinic School of Radiography establishes policies and procedures that are designed to protect everyone involved in the daily activities and affiliations of the program. In addition to the hospital and clinic mandated policies and procedures, programs must also assure everyone involved in the program is abiding by the Joint Review Committee on Education in Radiologic Technology (JRCERT) policies as well. **The School of Radiography strictly enforces its policies and procedures with all students.**

The Marshfield Clinic School of Radiography requires a respectful and professional behavior exhibited by students at all times. Students are expected to follow professional standards and ethics as outlined by the American Registry of Radiologic Technologists (ARRT) when in the classroom, laboratory and clinical settings.

Faculty provide both oral and written feedback regarding professional behaviors of students during mid-semester and semester end. Students are expected to change unsatisfactory behaviors after receiving feedback from faculty; some examples of such behaviors are stated in this policy but faculty reserve the right to determine inappropriate professional behaviors if such is affecting all entities involved with the program. Serious deficits in professional behavior with no improvement may result in a probationary status or dismissal from the program.

Immunization and Health Screening Data Requirements

Healthcare workers are required to keep their immunizations up-to-date and students preparing for those professions must also comply. **Following acceptance into the Radiography program, new students will be provided instructional information to meet compliance with all immunization and CPR requirements prior to the start of clinical.**

To protect the health of students, patients, employees and others, and to comply with standards established by the affiliated healthcare providers, the School of Radiography requires all students enrolled to provide dates of current immunization against certain vaccine preventable diseases, and date and results of current tuberculosis (TB) screening **before the student is eligible to participate** in clinical training, unless an exception applies. Marshfield Clinic School of Radiography students must comply with both Wisconsin law and clinical facility requirements related to immunization and testing.

ARRT Code of Ethics

Ethical professional conduct is expected of every member of the American Society of Radiologic Technologists and every individual registered by the American Registry of Radiologic Technologists. As a guide, the ASRT and the ARRT have issued a code of ethics for their members and registrants. By following the principles embodied in this code, radiologic technologists will protect the integrity of the profession and enhance the delivery of patient care. **Marshfield Clinic School of Radiography has adopted these Code of Ethics for enrolled students and requires adherence to its standards.**

By exhibiting high standards of ethics and pursuing professional development opportunities, radiologic technologists will demonstrate their commitment to quality patient care.

The ARRT Code of Ethics forms the first part of the Standards of Ethics. The Code of Ethics shall serve as a guide by which Certificate Holders and Candidates may evaluate their professional conduct as it relates to patients, healthcare consumers, employers, colleagues, and other members of the healthcare team. The Code of Ethics is intended to assist Certificate Holders and Candidates in maintaining a high level of ethical conduct and in providing for the protection, safety, and comfort of patients. The Code of Ethics is aspirational.

- 1. The radiologic technologist acts in a professional manner, responds to patient needs, and supports colleagues and associates in providing quality patient care.*
- 2. The radiologic technologist acts to advance the principal objective of the profession to provide services to humanity with full respect for the dignity of mankind.*
- 3. The radiologic technologist delivers patient care and service unrestricted by the concerns of personal attributes or the nature of the disease or illness, and without discrimination on the basis of sex, race, creed, religion, or socio-economic status.*
- 4. The radiologic technologist practices technology founded upon theoretical knowledge and concepts, uses equipment and accessories consistent with the purposes for which they were designed, and employs procedures and techniques appropriately.*
- 5. The radiologic technologist assesses situations; exercises care, discretion, and judgment; assumes responsibility for professional decisions; and acts in the best interest of the patient.*
- 6. The radiologic technologist acts as an agent through observation and communication to obtain pertinent information for the physician to aid in the diagnosis and treatment of the patient and recognizes that interpretation and diagnosis are outside the scope of practice for the profession.*
- 7. The radiologic technologist uses equipment and accessories, employs techniques and procedures, performs services in accordance with an accepted standard of practice, and demonstrates expertise in minimizing radiation exposure to the patient, self, and other members of the healthcare team.*
- 8. The radiologic technologist practices ethical conduct appropriate to the profession and protects the patient's right to quality radiologic technology care.*
- 9. The radiologic technologist respects confidences entrusted in the course of professional practice, respects the patient's right to privacy, and reveals confidential information only as required by law or to protect the welfare of the individual or the community.*
- 10. The radiologic technologist continually strives to improve knowledge and skills by participating in continuing education and professional activities, sharing knowledge with colleagues, and investigating new aspects of professional practice.*

Adopted by: The American Society of Radiologic Technologists- The ARRT Standards of Ethics are reprinted by permission of the ARRT. The ARRT Standards of Ethics are copyrighted by the ARRT." Copyright 2012

MCHS School of Radiography Admission Requirement Options

To apply for Marshfield Clinic School of Radiography and be considered for selection, a student must complete one of the options below:

- 1) If you are **currently** enrolled in a **Bachelors Degree** program through one of our formal affiliation Universities:

Marian University – Bachelor of Science Degree in Radiologic Technology

St. Cloud State University – Bachelor of Science Degree in Radiologic Technology

UW-Oshkosh – Bachelor of Radiologic Science Degree

UW-Stevens Point – Bachelor of Science in Health Science Degree

- In the *Fall Semester* of your second year of the Bachelors Degree program, apply for acceptance to Marshfield Clinic School of Radiography (Applications accepted Sept 1- Dec 1 of each year, for admission the following August)*
- Meet the Application Requirements for Marshfield Clinic School of Radiography listed on the following page
- *You must be able to successfully complete the required University degree courses prior to enrollment in Marshfield Clinic School of Radiography, if accepted.

Or,

- 2) If you are **currently** enrolled in an **Associates Degree** program from any regionally-accredited College or University:

- In the *Fall Semester* of your final year of the Associates Degree program, apply for acceptance to Marshfield Clinic School of Radiography (Applications accepted Sept 1- Dec 1 of each year, for admission the following August)*
- Meet the Application Requirements (including pre-requisite courses) for Marshfield Clinic School of Radiography listed on the following page
- *You must be able to successfully complete your Associates Degree prior to enrollment in Marshfield Clinic School of Radiography, if accepted.

Or,

- 3) If you have ***already completed*** an **Associates Degree** or **Bachelors Degree** from any regionally-accredited College or University:

- Apply for acceptance to Marshfield Clinic School of Radiography (Applications accepted Sept 1- Dec 1 of each year, for admission the following August)
- Meet the Application Requirements (including pre-requisite courses) for Marshfield Clinic School of Radiography listed on the following page

MCHS School of Radiography Admission Requirement Options

- Or,
- 4) If you are, or will be, a **high-school graduate**, or hold **no prior Degree**:
- Apply for acceptance into the Bachelors Degree program with one of our formal affiliation Universities:
 - Marian University – Bachelor of Science Degree in Radiologic Technology*
 - St. Cloud State University – Bachelor of Science Degree in Radiologic Technology*
 - UW-Oshkosh – Bachelor of Radiologic Science Degree*
 - UW-Stevens Point – Bachelor of Science in Health Science Degree*
 - In the *Fall Semester* of your second year of the Bachelors Degree program, apply for acceptance to Marshfield Clinic School of Radiography (Applications accepted Sept 1- Dec 1 of each year, for admission the following August)*
 - Meet the Application Requirements for Marshfield Clinic School of Radiography listed on the following page

Selective Admissions Process

Acceptance into Marshfield Clinic School of Radiography is based on a selective admissions process, and is not guaranteed. Applicants can earn points from selected criteria to increase their position in this process such as:

- High School and/or College GPA
- Grades for successful completion of pre-requisite college courses
- Grades for successful completion of pre-selected high school courses
- ACT score
- Previously completed certificates/degrees
- Previous or current healthcare work experience
- Shadowing experiences
- Successful completion of CNA License

These criteria are based on areas that have been found to be indicators for higher success rates. Not all criteria are mandatory for application, but if completed, can better an applicant's position, and therefore increase the chance of being selected. Please refer to the Application Requirements for indication of which criteria are considered mandatory for application. The Radiography Program bases scoring points on the national norms and program attrition data. Marshfield Clinic School of Radiography is continuously evaluating admissions procedures and reserves the right to make changes as necessary.



Marshfield Clinic Health System

School of Radiography Application Requirements

Application Period is **September 1 – December 1** of each year. No applications accepted beyond.

Prospective Students Must:

- ◆ At a minimum, hold an **Associate's Degree** upon admission or be enrolled in a Bachelor's Degree program through an affiliated university.
- ◆ Complete a [Student Application Form](#).
- ◆ Submit **Official ACT and/or SAT scores** directly from testing center or university.
- ◆ Submit **Official high school transcripts** verifying completion of an approved curriculum with a diploma or GED equivalent.*High School diploma or equivalent with a **minimum cumulative GPA of 2.5***
** Transcripts must be issued directly from the school/program. Student issued copies are not acceptable.*
- ◆ Submit **Official transcripts of all post-secondary schools, colleges or training programs** attended.
College courses with a **minimum cumulative GPA of 2.5*
* Transcripts must be issued directly from the school/program. Student issued copies are not acceptable.*
- ◆ Submit three (3) completed [Applicant Reference Request Forms](#); one must be from a college professor/instructor.
- ◆ Complete a minimum of **twelve (12) hours observation** in a Radiology Department. Download and print [Observation Verification Form\(s\)](#) as needed.
- ◆ All applicants to the program must have completed the following pre-requisite college courses with a "C" or better; and have proof of successful completion (transcripts) to our office prior to program start date. The following college courses can be completed from any post-secondary college. Determination of qualification of classes will be decided by the Program. Failure to provide official transcripts of completion by program start date will result in termination of acceptance into the program.
 - ◆ **Anatomy and Physiology I and II (or equivalent)**
 - ◆ **College Algebra (minimum)**
 - ◆ **Oral or Written Communication**
 - ◆ **One Additional Science (Physics or Chemistry Preferred)**

*Recommended (But Not Required)

- ◆ Completion of **CNA**

Those applicants who have submitted ALL completed application information by the deadline and meet the minimum academic requirements will be notified that their application is complete, and guided through the remaining steps to the application process.



Marshfield Clinic Health System

School of Radiography Application Checklist

- ◆ At a minimum, hold an **Associate's Degree** upon admission or be enrolled in a Bachelor's Degree program through an affiliated university.
- ◆ Complete a [Student Application Form](#).
- ◆ Submit **Official ACT and/or SAT scores** directly from testing center or university.
- ◆ Submit **Official high school transcripts** verifying completion of an approved curriculum with a diploma or GED equivalent.*High School diploma or equivalent with a **minimum cumulative GPA of 2.5***
** Transcripts must be issued directly from the school/program. Student issued copies are not acceptable.*
- ◆ Submit **Official transcripts of all post-secondary schools, colleges or training programs** attended.
College courses with a **minimum cumulative GPA of 2.5**
** Transcripts must be issued directly from the school/program. Student issued copies are not acceptable.*
- ◆ Submit three (3) completed [Applicant Reference Request Forms](#); one must be from a college professor/instructor.
 - ◆ Reference #1 (Name/Person) _____
 - ◆ Reference #2 (Name/Person) _____
 - ◆ Reference #3 (Name/Person) _____
- ◆ Complete a minimum of **twelve (12) hours observation** in a Radiology Department. Download and print [Observation Verification Form\(s\)](#) as needed.
 - ◆ Observation Place _____ Date _____ Hours _____
 - ◆ Observation Place _____ Date _____ Hours _____
 - ◆ Observation Place _____ Date _____ Hours _____
- ◆ Pre-requisite college courses with a "C" or better.
 - ◆ **Anatomy and Physiology I**
 - ◆ **Anatomy and Physiology II**
 - ◆ **College Algebra (minimum)**
 - ◆ **Oral or Written Communication**
 - ◆ **One Additional Science (Physics or Chemistry Preferred)**
- ◆ Completion of CNA *Recommended (But Not Required)





School of Radiography

Admission Application

*This application will not be considered complete unless all requested information below is provided, and all application requirements are met and received. Refer to the **Application Requirements** and **Application Checklist** for required components. All information and required components are due **December 1 of each year** for an August start the following year. Items received after December 1 will not be considered. Information is not retained for repeat applications. All requirements must be resubmitted each applying year.*

There are two methods of submission:

- **Submit Admission Application electronically:**
Email: schoolofradiology@marshfieldclinic.org
- **Submit Admission Application via postal service:**
Marshfield Clinic Health System Division of Education
School of Radiography Program Director, 2R6
1000 North Oak Avenue, Marshfield, WI 54449

Personal information

Name (PRINT)

Street address

City

State

ZIP code

Phone numbers: Cell

Home

E-mail address

Application fee

Application fee is \$50. Check or money order can be sent by mail. Credit card payment may be made by calling Student Programs at 715-387-9251.

ACT Score Report

Official ACT Score Report must be submitted directly from Testing Site or College Affiliate by December 1. Score reports will not be accepted from applicant.

ACT date completed _____
 ACT composite score _____
 ACT math score _____
 ACT science score _____

Observation/Shadowing

Applicants must complete a minimum of 12 hours observation/shadowing in a Diagnostic Radiology department. **Students must submit Observation Verification forms by December 1.** Applications will not be considered for applicants not completing the minimum observation hours.

Observation/Shadowing (continued)

Shadowing experience #1

Institution shadowed	Department shadowed		
Address	Hours	Minutes	

Shadowing experience #2

Institution shadowed	Department shadowed		
Address	Hours	Minutes	

Shadowing experience #3

Institution shadowed	Department shadowed		
Address	Hours	Minutes	

Shadowing experience #4

Institution shadowed	Department shadowed		
Address	Hours	Minutes	

Education

List all educational institutions that you have attended, starting with the most recent. All official **high school and college** transcripts must be sent to Marshfield Clinic Health System, School of Radiography **by December 1**. Electronic submission of official transcripts may be emailed to schoolofradiology@marshfieldclinic.org. **No unofficial transcripts will be accepted. Applications without official transcripts will not be considered.**

School name			
Location			
Dates attended: From _____ to _____	Graduated: <input type="checkbox"/> Yes <input type="checkbox"/> No		

School name			
Location			
Dates attended: From _____ to _____	Graduated: <input type="checkbox"/> Yes <input type="checkbox"/> No		

School name			
Location			
Dates attended: From _____ to _____	Graduated: <input type="checkbox"/> Yes <input type="checkbox"/> No		

High school			
Location			
Dates attended: From _____ to _____	Graduated: <input type="checkbox"/> Yes <input type="checkbox"/> No		

References

A minimum of three references (non-related) are required. Each person listed must complete an Applicant Reference Request and mail or email directly to Marshfield Clinic Health System, School of Radiography no later than **December 1**. Applicant Reference Requests sent to the program by the applicant will not be accepted. Students from affiliate universities must include a minimum of one professor as a reference. **Applications without returned Reference Requests will not be considered.**

Reference name

Relationship

Length of relationship

Address

Phone

Email address

Reference name

Relationship

Length of relationship

Address

Phone

Email address

Reference name

Relationship

Length of relationship

Address

Phone

Email address

Signature

The information I have provided on this application is true and complete to the best of my knowledge.

I understand that failure to submit required documents will disqualify my application.

Signature _____ Date (m/d/y) _____ / _____ / _____

It is the policy of Marshfield Clinic Health System to consider all applicants for admission without regard to age, race, religion, creed, color, handicap, marital status, sex, national origin, ancestry, political affiliation, sexual orientation, military reserve status, or any other unlawful bias.

Questions

The applicant is applying for entrance into our 22 month, full-time 40 hr/week School of Radiography. Our program is challenging, yet rewarding, but requires dedication and commitment. What do you believe to be the applicant's greatest challenge entering this program? Explain

Where do you believe the applicant needs improvement? Explain

Do you believe the applicant is a strong candidate to work in the healthcare field? Why or why not? Be as specific as you can

How does the applicant deal with conflict? Give an example, if applicable

Ethical and professional behavior is expected in this program and in the healthcare field. Describe how you feel about this applicant's ability to portray professionalism

How well does the applicant accept constructive criticism? Explain

Rate the applicant based on the following criteria:

5 = Considered excellent, 4 = Above average, 3 = Average, 2 = Needs improvement, 1 = Unsatisfactory

Punctuality _____ Attendance _____ Team player _____ Critical thinking _____

Conflict management _____ Motivation _____ Commitment _____ Professionalism _____

Constructive criticism _____

Signature _____ Date (m/d/y) ____ / ____ / ____

It is the policy of Marshfield Clinic to consider all applicants for admission without regard to age, race, religion, creed, color, handicap, marital status, sex, national origin, ancestry, political affiliation, sexual orientation, military reserve status, or any other unlawful bias.



School of Radiography

Observation Verification

Observation must be completed in a General Diagnostic Radiology Department. Modality observations such as ultrasound, CT, MRI, etc. will not be accepted. Print this form and have it completed during your observation/shadowing. A separate Observation Verification form must be used for each observation event. **Submit Observation Verification forms directly to our program by December 1.**

There are two methods of submission:

- **Submit Observation Verification form electronically:**
Email: schoolofradiology@marshfieldclinic.org
- **Submit Observation Verification form via postal service:**
Marshfield Clinic Health System Division of Education
School of Radiography Program Director, 2R6
1000 North Oak Avenue, Marshfield, WI 54449

Observation Information

Applicant's name (PRINT)

Name of institution observed

Department observed

Address

Date

Hours

Minutes

Supervising manager or technologist name (PRINT)

Supervising manager or technologist email

Supervising manager or technologist signature _____ Date _____

Student signature _____ Date _____



**Marshfield Clinic
School of Radiography
2020 Admission Year**

Scorecard - Selective Admission Process

Full Name: _____
(Last, First, middle name or given name)

Date: _____

Mailing Address: _____

Primary Phone: _____ Alternate Phone: _____
(In case of an emergency)

Student Email address: _____

Alternate Email Address: _____

Acceptance into Marshfield Clinic School of Radiography is based on a selective admissions process. Applicants can earn points from selected criteria to increase their position in this process. These criteria are based on areas that have been found to be indicators for higher success rates. Not all criteria are mandatory for application, but if completed, can better an applicant's position, and therefore increase the chance of being selected. Please refer to the Application Requirements for indication of which criteria are considered mandatory for application. The Radiography Program bases scoring points on the national norms and program attrition data. Marshfield Clinic School of Radiography is continuously evaluating admissions procedures and reserves the right to make changes as necessary.

A. Admission Test Scores – ACT Scores

- Applicants must have test scores sent officially from testing center or affiliated university.

	Adjusted Individual Score		Science Score		Math Score	
<i>Points will be awarded for the following components of the admissions test</i>	31 +	= 5 pts.	31 +	= 5 pts.	31+	= 5 pts.
	25–30	= 4 pts.	25-30	= 4 pts.	25-30	= 4 pts.
	20–24	= 3 pts.	20-24	= 3 pts.	20-24	= 3 pts.
	16-19	= 2 pts.	16-19	= 2 pts.	16-19	= 2 pts.
	10-15	= 1 pt.	10-15	= 1 pt.	10-15	= 1 pt.
<i>Total Points</i>	_____	Points	_____	Points	_____	Points
		_____		_____		_____
			Maximum Points Earned = 15			

MAX POINTS AWARDED = 15

TOTAL POINTS = _____

B. Non-RAD Completed Coursework – Applicants will earn points for completing the following college courses. Points are awarded only for courses with a final grade. Courses must be completed within 5 years of admission year for points to be awarded)

Course	Grade Earned			Name of Institution & Semester/Year Completed
	A	B	C	
College Level Physics	5	4	2	
Anatomy & Physiology I	5	4	2	
Anatomy & Physiology II	5	4	2	
College Algebra or Higher	5	4	2	
Public Speaking/Oral Communication	5	4	2	
English Comp/Written Communication	5	4	2	
College Level Chemistry	5	4	2	
Other Additional Science	5	4	2	
Subtotals				
<i>Total Points</i>				Maximum Points Earned = 40

MAX POINTS AWARDED = 40

TOTAL POINTS = _____

C. POST-SECONDARY CERTIFICATE OR DEGREE EARNED

Points will be awarded for the single highest post-Secondary certificate or degree obtained.

****Applicant must provide a copy of the transcript for validation.**

DEGREE RECEIVED	POINTS	INSTITUTION	YEAR
Certificate	3		
Diploma	5		
Associate's	10		
Bachelor's	15		
Master's	20		
<i>Total Points</i>		Maximum Points Earned = 20	

MAX POINTS AWARDED = 20

TOTAL POINTS = _____

D. SHADOWING/WORK EXPERIENCE*: (Documentation must be validated on facility letterhead by the employer)

* Work Experience in Medical/Health Care/ Radiography Department including Military Service in Healthcare that included direct patient care/contact.

Healthcare/Direct Patient Care Work Experience

Shadowing/Volunteer hours: (minimum of 12 hours) = 1 point

Shadowing/Volunteer hours: (additional 2 or more hours) = 1 point

6-12 months work experience = 2 points

13-24+ months work experience = 3 points

EMPLOYER	FROM/TO	POINTS	JOB/VOLUNTEER DESCRIPTION
<i>Total Points</i>			Maximum Points Earned = 5

MAX POINTS AWARDED = 5

TOTAL POINTS = _____

E. Transcripts – High School and College GPA

- **Official Transcripts** must be received directly from institution.

High School GPA		College GPA	
3.8 +	= 5 pts.	3.8 +	= 5 pts.
3.3-3.79	= 4 pts.	3.3-3.79	= 4 pts.
3.0-3.29	= 3 pts.	3.0-3.29	= 3 pts.
2.5-2.99	= 1 pts.	2.5-2.99	= 1 pts.
GPA	Points	GPA	Points
	_____		_____
		Maximum Points Earned = 10	

MAX POINTS AWARDED = 10

TOTAL POINTS = _____

F. High School Coursework – Applicants will earn points for completing the following high school courses.

Course	Grade Earned			Name of Institution & Semester/Year Completed
	A	B	C	
Health Science	5	4	2	
Medical Careers	5	4	2	
Anat & Physiology	5	4	2	
Honors/AP Anat & Physiology	5	4	2	
Honors/AP Biology	5	4	2	
Chemistry	5	4	2	
Honors/AP Chemistry	5	4	2	
Physics	5	4	2	
Honors/AP Physics	5	4	2	
Subtotals				
<i>Total Points</i>				Maximum Points Earned = 45

MAX POINTS AWARDED = 45

TOTAL POINTS = _____

G. Reference Letters

- Applicants must submit three letters of references (forms available online).
- One letter must be completed by a college instructor/professor.
- Applicants will receive points based on the reference scores.

	Reference Letter #1		Reference Letter #2		Reference Letter #3	
	45	= 5 pts.	45	= 5 pts.	45	= 5 pts.
	40-44	= 4 pts.	40-44	= 4 pts.	40-44	= 4 pts.
	35-39	= 2 pts.	35-39	= 2 pts.	35-39	= 2 pts.
	30-34	= 1 pt.	30-34	= 1 pt.	30-34	= 1 pt.
	Below 30	= 0 pts.	Below 30	= 0 pts.	Below 30	= 0 pts.
	Score	Points	Score	Points	Score	Points
		_____		_____		_____
			Maximum Points Earned = 15			

MAX POINTS AWARDED = 15

TOTAL POINTS = _____

H. CNA License

- **Official Certification License** must be provided to receive points.

CNA License	
Yes = 5 pts.	
	Points

Maximum Points Earned = 5	

MAX POINTS AWARDED = 5

TOTAL POINTS = _____

SUMMATION OF TOTAL POINTS

SECTION A= _____ / 15 Possible

SECTION B= _____ / 40 Possible

SECTION C= _____ / 20 Possible

SECTION D= _____ / 5 Possible

SECTION E= _____ / 10 Possible

SECTION F= _____ / 45 Possible

SECTION G= _____ / 15 Possible

SECTION H= _____ / 5 Possible

TOTALPOINTS= _____

MAXPOINTS AWARDED= 155

Date: _____

Rec'd and verified by MCHS staff: _____