

MEDICAL IMAGING SCIENCE
BACHELOR OF SCIENCE

HOW DO I APPLY?

To apply for the program in Medical Imaging Sciences, students must complete an application to the College of Health Professions and an application to the State University of New York.

For application information go to www.upstate.edu/students.

Completed applications should be submitted to the Office of Student Admissions as soon as possible and are accepted on a rolling admissions basis.

ADDITIONAL INFORMATION

For more information on the Medical Imaging Sciences program please contact Program Chair Kerry Greene-Donnelly at 315-464-6928 or greenek@upstate.edu.

To learn more about Upstate Medical University, which is located in Syracuse, New York, you may visit our web site at www.upstate.edu/chp or call our Office of Student Admissions and Financial Aid at 315-464-4570.

BS DEGREE PROGRAM

MEDICAL IMAGING

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WHAT IS MEDICAL IMAGING?

As one of the hottest careers in health care, medical imaging covers many ways to view the human body. Qualified personnel use sophisticated equipment and procedures to produce x-rays, CT scans, MRIs and sonograms to help doctors diagnose and assess patients.

Medical Imaging (also known as Radiologic Technology) is the production of radiographic pictures of internal structures in the human body by passing x-rays or gamma rays through the body. Technologists employed in this career use knowledge of physics, radiation protection, human anatomy, and a mastery of highly technical equipment to produce medical images.

Common medical imaging procedures include diagnostic radiography, mammography, cardiac interventional and vascular interventional technology, computed tomography, nuclear medicine, magnetic resonance imaging, and diagnostic medical sonography (ultrasound). These advanced imaging procedures have integrated highly complex and sophisticated technology with computer applications to produce a variety of digitally displayed and enhanced images. The information obtained through the use of this technology provides valuable assistance to physicians who are responsible for the treatment of patients.

WHAT IS A CAREER IN MEDICAL IMAGING LIKE?

A medical imaging specialist (radiographer) uses x-rays to provide diagnostic information for the treatment of injury or disease. Radiographers produce images to assist in detecting problems in internal organs, such as malfunctioning kidneys, stomach ulcers, and fractured bones. Surgeons often rely on radiographers to provide x-rays, CT scans or MRI images to assist them in pre- and post-surgical care. Since a medical radiographer has a high level of patient contact, interpersonal skills are critical. Computer skills are important due to continuous technological changes.

HOW IS THE PROGRAM STRUCTURED?

Our emphasis is on providing didactic, laboratory, and clinical environments that address the fundamentals of imaging technology, the application of learned procedures, and the development of competence, clinical skills, teaching, leadership, and management, and providing in-depth experiences in a variety of settings. The program consists of lectures, laboratory, and clinical experiences. This is an upper division program, five to six semesters in length (depending on specialty) and leads to a BS Degree.



UPSTATE
MEDICAL UNIVERSITY

College of Health Professions
Student Admissions • 1215 Weiskotten Hall
766 Irving Avenue • Syracuse, New York 13210

UPSTATE
MEDICAL UNIVERSITY
COLLEGE OF HEALTH PROFESSIONS

**An Upper-Division Transfer
and Graduate College**

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WHAT ARE THE PREREQUISITES FOR ADMISSION?

Our program comprises the final two years of a bachelor degree program. Prior to admission, you must have completed a total of 56 semester hours at an accredited college or university with grades of "C" or higher. These hours must include the following:

- College Algebra, or Precalculus, or Calculus I: 3 semester hours;
- Physics: 3-4 semester hours;
- Anatomy and Physiology I & II, 6-8 semester hours (or one semester each of Anatomy and Physiology);
- Psychology, 3 semester hours;
- Sociology, 3 semester hours;
- English (including composition), 6 semester hours;
- Liberal Arts/Sciences Electives

Science courses for science or biology majors are preferred. All science courses should include laboratories.

Applicants must submit proof of successful completion of CPR for the Professional Rescuer (Red Cross) or BLS for the Health Care Provider (American Heart Association) prior to matriculation.

WHEN DO I CHOOSE MY SPECIALTY?

Upon admission, all students are accepted into the Radiography track. Students are awarded positions in the CT or MR tracks during their junior year based on academic performance and availability of clinical sites. Upon program completion, Bachelor of Science degrees in Medical Imaging will be awarded. Each graduate must pass a national exam and become certified as a radiologic technologist before applying for certification in another modality.

WHAT ARE THE PERSONAL CHARACTERISTICS OF A SUCCESSFUL MEDICAL IMAGING PROFESSIONAL?

Medical Radiographers are energetic, motivated health care professionals seeking to make valuable contributions to the health and well being of patients. They possess strong math and science skills, value accuracy, and exercise initiative while demonstrating compassion toward patients. Medical Radiographers possess the discretion needed to determine the quality of an image as a diagnostic tool.



WHAT ARE THE WORKING CONDITIONS?

Our students will be prepared to work in virtually any environment including hospital radiology departments, operating rooms, trauma centers, orthopedic departments, or private imaging centers, to name a few. Depending on where you choose to work, the hours for medical imaging professionals will vary. As imaging is often delivered to patients during scheduled office visits, many technologists have regular business hours. However, imaging that occurs at acute care facilities or medical centers — which provide imaging services to in-patients and emergency room patients — may require evening, weekend and on-call work.

WHAT ABOUT SALARIES AND THE EMPLOYMENT MARKET?

Based on data from the U.S. Bureau of Labor, recent starting salaries for imaging technologists have been on the rise. Similarly, recent and projected numbers of employment opportunities for medical imaging employees have also been increasing. Virtually 100% of our graduates who sought employment have found positions.

www.upstate.edu/chp/xray

PROGRAM OF STUDY FOR THE RADIOGRAPHY TRACK

First Year (Junior)

Fall Semester 16 Credits

IMAG 300	Imaging Practicum I	1
IMAG 301	Positioning Principles I	2
IMAG 302	Positioning Laboratory I	2
IMAG 311	Fund of Imaging and Physics	5
IMAG 312	Evaluating Radiographs I	1
RDSC 326	Radiologic Science	
	Patient Care	2
IMAG 328	Intro to Imaging Modalities	1
IMAG 329	Radiographic/Topographic/Sectional Anatomy	2

Spring Semester 12 Credits

ENGL 302	Foundations of Professional Communication	0.5
CBHX 315	Health Care Ethics	2
IMAG 303	Imaging Practicum II	4
IMAG 304	Positioning Principles II	2
IMAG 305	Positioning Laboratory II	2
IMAG 313	Evaluating Radiographs II	0.5
IMAG 324	Radiation Biology & Protection	1

Summer Semester 12 Credits

IMAG 306	Imaging Practicum III	9.5
IMAG 308	Positioning Principles III	1
IMAG 314	Evaluating Radiographs III	0.5
IMAG 315	Positioning Laboratory III	1

Second Year (Senior)

Fall Semester 12 Credits

BIOL 451	Research Methods I	1
ENGL 325	Professional and Technical Writing	3
IMAG 415	Imaging Clerkship I	8

Spring Semester 14 Credits

IMAG 410	Quality Management in Medical Imaging	2
IMAG 411	Imaging Pathology	3
IMAG 412	Management Practices in MIS	2
IMAG 416	Imaging Clerkship II	7

PROGRAM OF STUDY FOR THE MAGNETIC RESONANCE (MR) TRACK

First Year (Junior)

Fall Semester 16 Credits

IMAG 300	Imaging Practicum I	1
IMAG 301	Positioning Principles I	2
IMAG 302	Positioning Laboratory I	2
IMAG 311	Fund of Imaging and Physics	5
IMAG 312	Evaluating Radiographs I	1
RDSC 326	Radiologic Science	
	Patient Care	2
IMAG 328	Intro to Imaging Modalities	1
IMAG 329	Radiographic/Topographic/Sectional Anatomy	2

Spring Semester 12 Credits

ENGL 302	Foundations of Professional Communication	0.5
CBHX 315	Health Care Ethics	2
IMAG 303	Imaging Practicum II	4
IMAG 304	Positioning Principles II	2
IMAG 305	Positioning Laboratory II	2
IMAG 313	Evaluating Radiographs II	0.5
IMAG 324	Radiation Biology & Protection	1

Summer Semester 12 Credits

IMAG 306	Imaging Practicum III	9.5
IMAG 308	Positioning Principles III	1
IMAG 314	Evaluating Radiographs III	0.5
IMAG 315	Positioning Laboratory III	1

Second Year (Senior)

Fall Semester 13.5 Credits

BIOL 451	Research Methods I	1
ENGL 303	Foundations of Professional Communication	0.5
IMAG 400	Imaging Practicum IV	1.5
IMAG 451	Advanced Imaging Procedures I MR	5
IMAG 452	Advanced Imaging Practicum I MR	5

Spring Semester 14 Credits

IMAG 401	Imaging Practicum V	2
IMAG 410	Quality Management in Medical Imaging	2
IMAG 411	Imaging Pathology	3
IMAG 454	Advanced Imaging Procedures II MR	2
IMAG 458	Advanced Imaging Practicum II MR BS	5

Summer Semester 12 Credits

IMAG 402	Imaging Practicum VI	4
IMAG 457	Advanced Imaging Practicum III MR	8

PROGRAM OF STUDY FOR THE COMPUTED TOMOGRAPHY (CT) TRACK

First Year (Junior)

Fall Semester 16 Credits

IMAG 300	Imaging Practicum I	1
IMAG 301	Positioning Principles I	2
IMAG 302	Positioning Laboratory I	2
IMAG 311	Fund of Imaging and Physics	5
IMAG 312	Evaluating Radiographs I	1
RDSC 326	Radiologic Science	
	Patient Care	2
IMAG 328	Intro to Imaging Modalities	1
IMAG 329	Radiographic/Topographic/Sectional Anatomy	2

Spring Semester 12 Credits

ENGL 302	Foundations of Professional Communication	0.5
CBHX 315	Health Care Ethics	2
IMAG 303	Imaging Practicum II	4
IMAG 304	Positioning Principles II	2
IMAG 305	Positioning Laboratory II	2
IMAG 313	Evaluating Radiographs II	0.5
IMAG 324	Radiation Biology & Protection	1

Summer Semester 12 Credits

IMAG 306	Imaging Practicum III	9.5
IMAG 308	Positioning Principles III	1
IMAG 314	Evaluating Radiographs III	0.5
IMAG 315	Positioning Laboratory III	1

Second Year (Senior)

Fall Semester 12 Credits

BIOL 451	Research Methods I	1
ENGL 303	Foundations of Professional Communication	0.5
IMAG 400	Imaging Practicum IV	1.5
IMAG 417	Advanced Imaging Procedures I CT	5
IMAG 431	Advanced Imaging Practicum I CT	5

Spring Semester 14 Credits

IMAG 401	Imaging Practicum V	2
IMAG 410	Quality Management in Medical Imaging	2
IMAG 411	Imaging Pathology	3
IMAG 418	Advanced Imaging Procedures II CT	2
IMAG 435	Advanced Imaging Practicum II CT	5

Summer Semester 12 Credits

IMAG 402	Imaging Practicum VI	4
IMAG 434	Advanced Imaging Practicum III CT	8