

Radiation Sciences, BS

Radiologic Technology

A radiologic technologist is a professional, qualified by education and clinical experience, who provides radiological (x-ray) services using a variety of exams and procedures. While utilizing excellent patient care skills, the technologist operates radiological equipment so that optimum radiographic quality is achieved with minimum radiation exposure to the patient. Radiographers are employed primarily in hospitals, clinics, and doctors' offices, where they work closely with other members of the health care team to help diagnose and treat patients.

The radiation sciences radiologic technology degree tracks consist of five professional programs. Up to 20 students are accepted into the radiologic technology program each year.

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Each of these two- or three-year programs is selective and competitive; acceptance is not guaranteed. Students must satisfy all UI admission requirements, complete all prerequisites, and be accepted into a radiologic technology professional program following an application and selection process; see Radiologic Technology on the Radiation Sciences Program website.

Radiologic Technology

The radiologic technology (RT) program provides education in pathology, radiation biology, radiation protection, patient care, sectional anatomy, emotional intelligence, medical ethics, medical research, quality management, and health care administration. Students learn about radiographic procedures and positioning, digital imaging, and evaluation. Students become proficient in using a variety of different types of imaging equipment and participate in supervised clinical education in diagnostic radiography.

Upon completion of the program, graduates are eligible to apply for the national certification exam in radiography.

Students who will have completed a total of 60 s.h., including prerequisite courses by June 1, are eligible to apply to this program. Students typically apply to this two-year program during their second year and begin in fall of their junior year. Application deadline is Jan. 15.

RT: Required Courses

Upon acceptance into this radiologic technology professional program, students will complete required courses and internships during their third and fourth years.

Course #	Title	Hours
All of these:		
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSP:1100	Introduction to the Radiation Sciences	1
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3
RSRT:2120	Radiologic Technology Clinical Internship I	1
RSRT:2130	Radiographic Procedures I	2
RSRT:2140	Radiographic Analysis I	1
RSRT:2141	Radiographic Procedures and Analysis I Lab	1
RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	2
RSRT:2241	Radiographic Procedures and Analysis II Lab	1
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSRT:2251	Radiographic Fluoroscopic Procedures Lab	1
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSRT:3110	Radiographic Analysis III	1
RSRT:3111	Radiographic Procedures and Analysis III Lab	1
RSRT:3120	Radiographic Procedures III	2
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	4
RSRT:3141	Radiographic and Digital Imaging Lab	1
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	3
RSRT:3231	Radiographic Physics and Imaging Equipment Lab	1
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	2

Radiologic Technology and Breast Imaging

Students participate in the radiologic technology curriculum as previously stated for the first two years.

The breast imaging (BI) component offers intensive study and practice in breast imaging, including patient care procedures, pathology, anatomy, imaging procedures and analysis, Mammography Quality Standards Act (MQSA) quality control, and image acquisition principles. Students become acquainted with imaging equipment, study quality assurance, and participate in supervised clinical education in radiography and breast imaging.

Upon completion of the program, graduates are eligible to apply for the national certification exams in radiography and mammography.

Students who will have completed all prerequisite courses by June 1 are eligible to apply to this program. Students typically apply to this three-year program during their first year and begin in the fall of their sophomore year. Application deadline is Jan. 15.

RT and Breast Imaging: Required Courses

Upon acceptance into the radiologic technology and breast imaging professional program, students will complete required courses and internships during their second, third, and fourth years.

Course #	Title	Hours
All of these:		
RSBI:3310	Patient Care for Breast Imaging	3
RSBI:3315	Breast Imaging Clinical Internship I	2
RSBI:4110	Breast Imaging Procedures and Analysis	3
RSBI:4115	Breast Imaging Clinical Internship II	4
RSBI:4120	Anatomy and Pathology for Breast Imaging	2
RSBI:4130	Breast Imaging Acquisitions and Principles	2
RSBI:4210	Breast Imaging Advanced Procedures and Analysis	3
RSBI:4215	Breast Imaging Clinical Internship III	4
RSBI:4220	Quality Control in Breast Imaging	3
RSCI:4110	Vascular Anatomy	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2

RSP:4110	Research Methodology for Radiation Sciences	3
RSRT:2120	Radiologic Technology Clinical Internship I	1
RSRT:2130	Radiographic Procedures I	2
RSRT:2140	Radiographic Analysis I	1
RSRT:2141	Radiographic Procedures and Analysis I Lab	1
RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	2
RSRT:2241	Radiographic Procedures and Analysis II Lab	1
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSRT:2251	Radiographic Fluoroscopic Procedures Lab	1
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSRT:3110	Radiographic Analysis III	1
RSRT:3111	Radiographic Procedures and Analysis III Lab	1
RSRT:3120	Radiographic Procedures III	2
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	4
RSRT:3141	Radiographic and Digital Imaging Lab	1
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	3
RSRT:3231	Radiographic Physics and Imaging Equipment Lab	1
RSRT:3325	Radiologic Technology Clinical Internship VI	2
RSRT:4125	Radiologic Technology Clinical Internship VII	1
RSRT:4225	Radiologic Technology Clinical Internship VIII	1
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	2

Radiologic Technology and Cardiovascular Interventional

Students participate in the radiologic technology curriculum as stated previously for the first two years.

The cardiovascular interventional (CVI) component concentrates on imaging equipment, pharmacology, sterile techniques, cardiac monitoring, vascular anatomy and physiology; cardiovascular, peripheral, and neurological procedures and pathology; therapeutic intervention techniques; and digital angiography. Students become acquainted with imaging equipment, study quality assurance, and participate in supervised clinical education

in radiography, cardiac interventional, and peripheral and neurological interventional.

Upon completion of the program, graduates are eligible to apply for the national certification exams in radiography, vascular interventional technology, and cardiac interventional technology.

Students who will have completed all prerequisite courses by June 1 are eligible to apply to this program. Students typically apply to this three-year program during their first year and begin in fall of their sophomore year. Application deadline is Jan. 15.

RT and Cardiovascular Interventional: Required Courses

Upon acceptance into the radiologic technology and cardiovascular interventional professional program, students will complete required courses and internships during their second, third, and fourth years.

Course #	Title	Hours
All of these:		
RSCI:4110	Vascular Anatomy	3
RSCI:4120	CVI Principles	4
RSCI:4130	Electrocardiogram and Hemodynamics	3
RSCI:4140	CVI Peripheral Procedures and Pathology	3
RSCI:4150	CVI Neurology and Nonvascular Procedures and Pathology	3
RSCI:4160	CVI Cardiac Procedures and Pathology	4
RSCI:4170	CVI Clinical Internship III	4
RSCI:4180	CVI Clinical Internship II	4
RSCI:4190	CVI Clinical Internship I	2
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3
RSRT:2120	Radiologic Technology Clinical Internship I	1
RSRT:2130	Radiographic Procedures I	2
RSRT:2140	Radiographic Analysis I	1
RSRT:2141	Radiographic Procedures and Analysis I Lab	1
RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	2
RSRT:2241	Radiographic Procedures and Analysis II Lab	1

RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSRT:2251	Radiographic Fluoroscopic Procedures Lab	1
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSRT:3110	Radiographic Analysis III	1
RSRT:3111	Radiographic Procedures and Analysis III Lab	1
RSRT:3120	Radiographic Procedures III	2
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	4
RSRT:3141	Radiographic and Digital Imaging Lab	1
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	3
RSRT:3231	Radiographic Physics and Imaging Equipment Lab	1
RSRT:3325	Radiologic Technology Clinical Internship VI	2
RSRT:4125	Radiologic Technology Clinical Internship VII	1
RSRT:4225	Radiologic Technology Clinical Internship VIII	1
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	2

Radiologic Technology and Computed Tomography

Students participate in the radiologic technology curriculum as stated previously for the first two years.

The computed tomography (CT) component concentrates on sectional anatomy, single and multislice CT, electron beam CT, physiologic and 3D imaging, CT simulation, physics and imaging, and procedures and pathology. Students become acquainted with imaging equipment, study quality assurance, and participate in supervised clinical education in radiography and computed tomography.

Upon completion of the program, graduates are eligible to apply for the national certification exams in radiography and computed tomography.

Students who will have completed all prerequisite courses by June 1 are eligible to apply to this program. Students typically apply to this three-year program during their first year and begin in fall of their sophomore year. Application deadline is Jan. 15.

RT and Computed Tomography: Required Courses

Upon acceptance into the radiologic technology and computed tomography professional program, students will complete required courses and internships during their second, third, and fourth years.

Course #	Title	Hours
All of these:		
RSCI:4110	Vascular Anatomy	3
RSCI:4130	Electrocardiogram and Hemodynamics	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSCT:4105	Computed Tomography Clinical Internship I	2
RSCT:4115	Computed Tomography Clinical Internship II	4
RSCT:4120	Computed Tomography Procedures I	4
RSCT:4125	Computed Tomography Procedures II	4
RSCT:4130	Computed Tomography Physical Principles and QC	4
RSCT:4215	Computed Tomography Clinical Internship III	4
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3
RSRT:2120	Radiologic Technology Clinical Internship I	1
RSRT:2130	Radiographic Procedures I	2
RSRT:2140	Radiographic Analysis I	1
RSRT:2141	Radiographic Procedures and Analysis I Lab	1
RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	2
RSRT:2241	Radiographic Procedures and Analysis II Lab	1
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSRT:2251	Radiographic Fluoroscopic Procedures Lab	1
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSRT:3110	Radiographic Analysis III	1
RSRT:3111	Radiographic Procedures and Analysis III Lab	1
RSRT:3120	Radiographic Procedures III	2
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	4
RSRT:3141	Radiographic and Digital Imaging Lab	1
RSRT:3220	Emotional Intelligence for the Health Care Professional	2

RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	3
RSRT:3231	Radiographic Physics and Imaging Equipment Lab	1
RSRT:3325	Radiologic Technology Clinical Internship VI	2
RSRT:4125	Radiologic Technology Clinical Internship VII	1
RSRT:4225	Radiologic Technology Clinical Internship VIII	1
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	2

Radiologic Technology and Magnetic Resonance Imaging

Students participate in the radiologic technology curriculum as stated previously for the first two years.

The magnetic resonance imaging (MRI) component offers intensive study and practice in MRI, including patient care procedures, pathophysiology, physics, sectional anatomy, and instrumentation. Students become acquainted with imaging equipment, study quality assurance, and participate in supervised clinical education in radiography and magnetic resonance imaging.

Upon completion of the program, graduates are eligible to apply for the national certification exams in radiography and magnetic resonance imaging.

Students who will have completed all prerequisite courses by June 1 are eligible to apply to this program. Students typically apply to this three-year program during their first year and begin in fall of their sophomore year. Application deadline is Jan. 15.

RT and Magnetic Resonance Imaging: Required Courses

Upon acceptance into the radiologic technology and magnetic resonance imaging professional program, students will complete required courses and internships during their second, third, and fourth years.

Course #	Title	Hours
All of these:		
RSCI:4110	Vascular Anatomy	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSMR:4110	Fundamentals for the MRI Technologist	3
RSMR:4120	MRI Procedures I	4
RSMR:4130	MRI Procedures II	4
RSMR:4140	MRI Acquisition and Principles I	3
RSMR:4150	MRI Acquisition and Principles II	3
RSMR:4160	MRI Clinical Internship I	2
RSMR:4170	MRI Clinical Internship II	4
RSMR:4175	MRI Clinical Internship III	4
RSP:2110	Pathology for Radiation Sciences	2

RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3
RSRT:2120	Radiologic Technology Clinical Internship I	1
RSRT:2130	Radiographic Procedures I	2
RSRT:2140	Radiographic Analysis I	1
RSRT:2141	Radiographic Procedures and Analysis I Lab	1
RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	2
RSRT:2241	Radiographic Procedures and Analysis II Lab	1
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSRT:2251	Radiographic Fluoroscopic Procedures Lab	1
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSRT:3110	Radiographic Analysis III	1
RSRT:3111	Radiographic Procedures and Analysis III Lab	1
RSRT:3120	Radiographic Procedures III	2
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	4
RSRT:3141	Radiographic and Digital Imaging Lab	1
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	3
RSRT:3231	Radiographic Physics and Imaging Equipment Lab	1
RSRT:3325	Radiologic Technology Clinical Internship VI	2
RSRT:4125	Radiologic Technology Clinical Internship VII	1
RSRT:4225	Radiologic Technology Clinical Internship VIII	1
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	2

Course #	Title	Hours
All of these:		
RSP:1100	Introduction to the Radiation Sciences (required for two-year radiologic technology track)	1
PHYS:1400	Basic Physics	3-4
PSY:1010	Your Brain Unlocked: Learning About Learning	1
STAT:1020	Elementary Statistics and Inference	3
One of these:		
BIOL:1140	Human Biology: Nonmajors	4
HHP:1400	Human Anatomy and Physiology	3
One of these:		
BAIS:1500	Business Computing Essentials	2
CS:1020	Principles of Computing	3

RT Recommended Pre-Major Work

The following courses are recommended prior to RT program application.