

Radiologic Technology

Gainful Employment	Program Name	Program Type	Area of Study
	Radiologic Technology (9380) , AAS (https://catalog.lakelandcc.edu/degree-certificate-programs/radt/9380)	Degree	RADT
	Computed Tomography Certificate (3811) (https://catalog.lakelandcc.edu/degree-certificate-programs/radt/3811)	Certificate	RADT
	Magnetic Resonance Imaging Certificate (3821) (https://catalog.lakelandcc.edu/degree-certificate-programs/radt/3821)	Certificate	RADT



Gainful employment programs; reporting available in compliance with the U.S Department of Education

RADT 1100 Introduction to Radiography and Imaging Principles

4 Credits

Prerequisite: admission to Radiologic Technology program.

This course introduces students who have been accepted into the Radiologic Technology program to the profession of radiologic technology and its role in healthcare delivery, medical ethics, and medical-legal issues. The course also reviews mathematics for radiographers, fundamentals of radiographic exposure, computed radiography, and basic radiation protection.

(5 contact hours: 3 lecture, 2 lab)

RADT 1150 Principles of Imaging II

4 Credits

Prerequisite: RADT 1100.

This course introduces students to factors that affect digital image quality and the proper utilization of accessory devices. It includes discussions on the fundamentals of digital radiography, technique charts, and automatic exposure control. The course concentrates on overall image quality as well as patient exposure.

(5 contact hours: 3 lecture, 2 lab)

RADT 1210 Radiographic Procedures I

3 Credits

Prerequisite: admission to Radiologic Technology program.

This course orients students to radiographic procedures. The course examines radiographic positioning and procedures of the chest/thorax, CT chest/thorax, abdomen, upper extremity and shoulder girdle, and lower extremity and pelvic girdle.

(5 contact hours: 2 lecture, 3 lab)

RADT 1220 Radiographic Procedure II

3 Credits

Prerequisite: RADT 1210.

This course demonstrates radiographic positioning and procedures of the digestive system; urinary system; spine; bony thorax; skull; and mobile, surgical, and basic brain CT exams.

(5 contact hours: 2 lecture, 3 lab)

RADT 1300 Patient Care in Radiography

1 Credit

Prerequisite: admission to Radiologic Technology program.

This course introduces students who have been accepted into the Radiologic Technology program to venipuncture, infection control procedures, patient safety, and assessment techniques used in the care of patients in the radiology department. It also provides an orientation to radiology department functions.

(2 contact hours: 0.5 lecture, 1.5 lab)

RADT 1320 Clinical Experience I

2 Credits

Prerequisite: RADT 1100, RADT 1210, RADT 1300.

This course introduces students to the radiology department functions and provides supervised clinical practice and practical application of radiographic principles, positioning, technique, and patient care with emphasis on chest, abdominal and extremity radiography.

(16 contact hours: 16 clinical)

RADT 2100 Special Imaging Modalities

2 Credits

Prerequisite: RADT 1220.

This course provides students with an overview to the equipment and procedures associated with vascular, neurological, interventional, arthrography, and reproductive system examinations. The course covers special imaging modalities such as CT, MR, PET, and mammography.

(2 contact hours)

RADT 2150 Radiation Physics**3 Credits***Prerequisite: RADT 1150.*

This course introduces students to the basic concepts of physics, electrostatics, electrodynamics, electromagnetics, rectification, x-ray tubes, x-ray circuits, and production and characteristics of radiation used in radiology.
(3 contact hours)

RADT 2200 Principles of Imaging III**3 Credits***Prerequisite: RADT 1150.*

This course provides the study of specialized imaging modalities and equipment, such as image intensification, tomography, PACS, HIS, RIS, digital printing, and other emerging imaging modalities. It includes discussions of radiographic film/cassette characteristics, automatic processing, and quality assurance for the radiology department.
(3 contact hours)

RADT 2280 Radiographic Pathology**2 Credits***Prerequisite: BIOL 2220, RADT 2100.*

This course introduces students to the concepts of disease including pathogenesis, clinical manifestations, radiographic appearance, and technical adaptation.
(2 contact hours)

RADT 2310 Clinical Experience II**2 Credits***Prerequisite: RADT 1320.*

This course is a continuation of RADT 1320 Clinical Experience I providing supervised clinical practice and practical application of radiographic principles, positioning, technique, and patient care; with emphasis on gastrointestinal, biliary, urographic, surgical, portable and emergency/trauma radiography. The course also emphasizes the further development of skills learned in Radiographic Procedures I, II, (RADT 1210, 1220) and in Clinical Experience I (RADT 1320).
(16 contact hours: 16 clinical)

RADT 2320 Clinical Experience III**3 Credits***Prerequisite: RADT 2310.*

This course is a continuation of RADT 2310 Clinical Experience II providing supervised clinical practice and practical application of radiographic principles, positioning, technique, and patient care; with emphasis on skull radiography, arthrography, myelography, and tomography. (24 contact hours: 24 clinical)
(24 contact hours: 24 clinical)

RADT 2330 Clinical Experience V**3 Credits**

Prerequisite: RADT 2320 This course is a continuation of RADT 2320 Clinical Experience III providing supervised clinical practice and practical application of radiographic principles, positioning, technique, and patient care; with emphasis on advanced imaging modalities including CT, MRI, nuclear medicine, ultrasound, and radiation therapy. (24 contact hours: 24 clinical)
(24 contact hours: 24 clinical)

RADT 2340 Clinical Experience V**2 Credits**

Prerequisite: RADT 2330 This course is a continuation of RADT 2330 Clinical Experience IV providing supervised clinical practice and practical application of radiographic principles, positioning, technique, and patient care; with emphasis on refinement of previously-learned skills, and the development of speed and accuracy.

Students will complete all required competencies and perform all functions of an entry-level radiographer. (16 contact hours: 16 clinical)
(16 contact hours: 16 clinical)

RADT 2410 Radiation Protection and Biology**3 Credits***Prerequisite: RADT 2150.*

The course discusses the development of radiobiology, the effects on biological systems, and topics in radiation protection and measurement.
(3 contact hours)

RADT 2450 Seminar II**2 Credits**

Prerequisite: RADT 2410 This capstone course integrates all coursework, presented in the two years of training, through preparation for the Registry exam and film critique sessions.

The course discusses employment opportunities and job seeking skills. (2 contact hours)
(2 contact hours)

RADT 2500 Mammography for Radiologic Technologists**2 Credits***Prerequisite: ARRT certification or permission of instructor.*

This course explores the technical aspects of mammography including optimizing image quality and full-field digital mammography. The course addresses issues relevant to the Mammography Quality Standards Act and helps prepare radiographers for an advanced-level registry exam in mammography.
(2 contact hours)

RADT 2600 Introduction to Computed Tomography and Magnetic Resonance Imaging**2 Credits***Prerequisite: ARRT certification or permission of instructor.*

The course introduces the radiologic technologist to the fundamental principles and special imaging techniques of computed tomography and magnetic resonance imaging.
(2 contact hours)

RADT 2620 Sectional Anatomy and Pathophysiology I**3 Credits***Prerequisite: BIOL 2220, second year radiography student; or ARRT certification.*

This course provides a study of human gross anatomy and pathophysiology of the head, neck and thorax in axial, sagittal, and coronal planes; with correlation to computerized tomography (CT) and magnetic resonance imaging (MRI).
(3 contact hours)

RADT 2640 Sectional Anatomy and Pathophysiology II**3 Credits***Prerequisite: BIOL 2220, second year radiography student; or ARRT certification.*

This course provides a study of human gross anatomy and pathophysiology of the abdomen, pelvis, extremities, and articulations in axial, sagittal, and coronal planes; with correlation to computerized tomography (CT) and magnetic resonance imaging (MRI).
(3 contact hours)

RADT 2710 CT Physics and Imaging**2 Credits***Prerequisite: ARRT certification or permission of instructor.*

This course is designed to help radiologic technologists develop an understanding of computer fundamentals and physics of CT imaging.
(2 contact hours)

RADT 2720 CT Clinical Experience**1-4 Credits***Prerequisite: ARRT certification, RADT 2600; or permission of instructor.*

This course, a supervised clinical practice, provides radiologic technologists with the knowledge and skills necessary to perform as a computed tomography technologist. Students may repeat approved CT clinical experiences for credit up to a maximum of 4 credits.
(8-32 contact hours: 8-32 clinical)

RADT 2810 MRI Physics and Imaging**3 Credits***Prerequisite: ARRT certification or permission of instructor.*

This course is designed to help radiologic technologists develop an understanding of MR imaging methods and MR physics.
(3 contact hours)

RADT 2820 MRI Clinical Experience**1-4 Credits***Prerequisite: ARRT certification, RADT 2600; or permission of instructor.*

This course, a supervised clinical practice, provides radiologic technologists with the knowledge and skills necessary to perform as a magnetic resonance imaging technologist. Students may repeat approved MRI clinical experiences for credit up to a maximum of 4 credits.
(8-32 contact hours: 8-32 clinical)