LIMITED SCOPE RADIOGRAPHY

DIPLOMA – 46 CREDITS

About this program

The Limited Scope Radiography program prepares students to become competent entry-level limited scope radiographers. The limited scope radiographer works under the direction of a healthcare provider and communicates with and positions patients for specified types of radiography examinations. The limited scope radiographer provides quality care to patients; manipulates radiographic equipment and accessories; selects and adjusts technical factors; provides radiation protection for patients, self and others; obtains diagnostic images; performs image evaluation; and carries out activities associated with equipment quality control. Students are equipped with the knowledge and skills necessary to perform a variety of radiography exams on patients in various healthcare settings.

Program outcomes

1. Model professional behaviors and perform duties within the ethical and legal boundaries of a limited scope radiographer.
2. Demonstrate use of critical thinking and independent judgment.
3. Conduct and participate in quality improvement and quality control tasks.
4. Use compassion and interpersonal communication skills with patients, members of the healthcare team and others.
5. Manipulate radiographic equipment and accessories in the pursuit of quality radiographic images.
6. Demonstrate appropriate image acquisition and positioning techniques to obtain quality radiographic images.
7. Evaluate images for image quality and determine quality improvement methods.
8. Apply radiation protection and safety practices to patients, self and others.
9. Use patient care skills and monitoring techniques.
10. Participate in lifelong learning activities as required by the profession.

Curriculum overview

Crds	Requirement type
46	Required courses
46	**Total**

Developmental courses note: A student may be required to enroll in developmental courses in reading, writing and math. A student's scores on the Accuplacer assessment will determine enrollment in developmental courses. The purpose of developmental courses is to prepare students for the demands of a college-level curriculum. *Credits may vary.*

Accreditation: Minnesota State Community and Technical College is accredited by the Higher Learning Commission, a regional accreditation agency recognized by the U.S. Department of Education. The Higher Learning Commission 230 South LaSalle Street, Suite 7-500 Chicago, IL 60604-1411 http://www.ncahigherlearningcommission.org Phone: 312.263.0456 / 800.621.7440

© 2026 Minnesota State Community and Technical College. We reserve the right to periodically update information without notice. The information in this publication should not be regarded as contractual in nature.

Curriculum requirement details

Required courses

Course	Crds
BIOL2260 - Human Anatomy and Physiology I	3
COMM1140 - Interpersonal Communication	3
LSR1100 - Introduction to Limited Scope Radiography and Patient Care	3
LSR1120 - Image Production I	4
LSR1140 - Radiation Protection	3
LSR1160 - Radiographic Procedures I	5
LSR1220 - Image Production II	3
LSR1230 - Imaging Equipment and Quality Control	3
LSR1240 - Radiobiology	2
LSR1260 - Radiographic Procedures II	4
LSR1270 - Limited Scope Radiography ARRT Licensure Exam Preparation	2
LSR1280 - Radiographic Clinical I	4
LSR1290 - Radiographic Clinical II	5
RADT1102 - Fundamental Concepts of Radiologic Technology	2

Other requirements or restricted electives

© 2026 Minnesota State Community and Technical College. We reserve the right to periodically update information without notice. The information in this publication should not be regarded as contractual in nature.

Course summaries

BIOL2260 - Human Anatomy and Physiology I ..... ***(3 credits)***
Meets MnTC Goal Area 3. This course is a comprehensive introductory overview of human anatomy and physiology that includes basic fundamental concepts of cell biology, tissues and organs making up the integumentary, skeletal, muscular and nervous systems. It is the first of a two-semester sequence in which anatomy and physiology are studied with an emphasis on structure and functions of systems. This course contains a lab-like component.

Prerequisites:

- Assessment into ENGL 1101 or college level writing equivalent.

COMM1140 - Interpersonal Communication ..... ***(3 credits)***
Meets MnTC Goal Area 1. This course will focus on improving students' abilities to communicate effectively in one-to-one dyadic encounters by providing experience-based instruction. Extensive in-class and out-of-class analyses allow the student to examine his/her own and others' informal social interactions. The long-term goal is for the student to apply interpersonal communication theories to daily interactions and draw his/her own conclusions about the effectiveness of interpersonal communication.

Prerequisites:

- Assessment into ENGL 1101

LSR1100 - Introduction to Limited Scope Radiography and Patient Care ..... ***(3 credits)***
This course explores the role of limited scope radiographers. Foundational principles that address ethical and legal aspects, professionalism and interpersonal communication skills are presented. The course also includes patient care and monitoring techniques, medical emergencies, universal precautions and infection control processes.

Prerequisites:

- BIOL2260
- COMM1140
- HLTH1116

Corequisites:

- LSR1120
- LSR1140
- LSR1160

LSR1120 - Image Production I ..... ***(4 credits)***
This course is designed to introduce the student to image acquisition techniques. A comprehensive review of technical factors and their impact on image quality will be covered, along with technique charts and their components. Students also will be introduced to x-ray production processes, the fundamental properties of x-rays and the basic components of imaging equipment.

Prerequisites:

- BIOL2260
- COMM1140
- HLTH1116

Corequisites:

- LSR1100
- LSR1140
- LSR1160

© 2026 Minnesota State Community and Technical College. We reserve the right to periodically update information without notice. The information in this publication should not be regarded as contractual in nature.

LSR1140 - Radiation Protection ..... ***(3 credits)***
This course presents an overview of the principles of radiation protection. Included are the radiation protection responsibilities of the limited scope radiographer for patients, self and other members of the interdisciplinary health care team; x-ray interactions with matter; the As Low As Reasonably Achievable (ALARA) concept; and the basic methods of radiation protection. Also incorporated are radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations.

Prerequisites:

- BIOL2260
- COMM1140
- HLTH1116

Corequisites:

- LSR1100
- LSR1120
- LSR1160

LSR1160 - Radiographic Procedures I ..... ***(5 credits)***
This course provides the information students need to perform radiographic/imaging procedures related to the thoracic viscera, abdomen, and the upper and lower extremities (including shoulder girdle and podiatric exams). General medical and radiographic terminology, anatomy, routine positions and projections are the focus of the class. Radiographic equipment and accessory manipulation, selection of technical factors, correct body mechanics, and patient care skills and monitoring techniques will be practiced in the lab.

Prerequisites:

- BIOL2260
- COMM1140
- HLTH1116

Corequisites:

- LSR1100
- LSR1120
- LSR1140

LSR1220 - Image Production II ..... ***(3 credits)***
This course will build on and expand the student's knowledge of the factors that govern and influence the production and archival of radiographic images. A review of previously introduced technical factors will be covered with a specific focus on their impact on the digital image acquisition processes and image quality. Digital image characteristics, processing, display and image identification techniques will be covered.

Prerequisites:

- LSR1120
- LSR1140
- LSR1160

Corequisites:

- LSR1230
- LSR1240
- LSR1260
- LSR1280

© 2026 Minnesota State Community and Technical College. We reserve the right to periodically update information without notice. The information in this publication should not be regarded as contractual in nature.

LSR1230 - Imaging Equipment and Quality Control ..... ***(3 credits)***
This course addresses the functional, physical and design components of radiographic (fixed and mobile) equipment. Intricate details of the equipment are covered, including but not limited to equipment circuitry, generators, transformers, x-ray tube components and functions, and digital imaging detectors and processing components. The course is also designed to introduce the student to radiographic equipment and accessory quality control.

Prerequisites:

- LSR1120
- LSR1140
- LSR1160

Corequisites:

- LSR1220
- LSR1240
- LSR1260
- LSR1280

LSR1240 - Radiobiology ..... ***(2 credits)***
This course provides basic knowledge of cellular and molecular structures of the human body and explores the effects radiation can have on these structures and the body as a whole. Factors affecting biological response are presented, including acute and chronic effects of radiation exposure. The course also covers radiation quantities, units used to express radiation exposure, and dose limiting systems designed to protect patients, workers and the general public.

Prerequisites:

- LSR1120
- LSR1140
- LSR1160

Corequisites:

- LSR1220
- LSR1230
- LSR1260
- LSR1280

LSR1260 - Radiographic Procedures II ..... ***(4 credits)***
This course provides the information students need to perform radiographic/imaging procedures related to the pelvic girdle, bony thorax, spine and skull. General medical and radiographic terminology, anatomy, routine positions and projections will be the focus of the class. Radiographic equipment and accessory manipulation, selection of technical factors, correct body mechanics, and patient care skills and monitoring techniques will be practiced in the lab.

Prerequisites:

- LSR1120
- LSR1140
- LSR1160

Corequisites:

- LSR1220
- LSR1230
- LSR1240
- LSR1280

© 2026 Minnesota State Community and Technical College. We reserve the right to periodically update information without notice. The information in this publication should not be regarded as contractual in nature.

LSR1270 - Limited Scope Radiography ARRT Licensure Exam Preparation ..... ***(2 credits)***
This course is designed to prepare students to write the ARRT LXMO licensing exam for Minnesota, administered by the American Registry of Radiologic Technologists (ARRT). A review of all coursework presented in the program, with an emphasis on the ARRT exam specifications, is presented.

Prerequisites:

- LSR1100
- LSR1120
- LSR1140
- LSR1160

Corequisites:

- LSR1220
- LSR1230
- LSR1240
- LSR1260

LSR1280 - Radiographic Clinical I ..... ***(4 credits)***
This course provides students with opportunities to get hands-on experience in a variety of clinical settings. Students work under the direct supervision of a registered radiologic technologist and practice radiographic positioning and equipment manipulation to achieve diagnostic-quality images. The primary purpose of this clinical experience is to obtain and pursue competence in radiographic exams of the chest, spine, upper extremity, shoulder girdle and lower extremity (including podiatric exams).

Prerequisites:

- LSR1270

LSR1290 - Radiographic Clinical II ..... ***(5 credits)***
This course provides students with opportunities to get hands-on experience in a variety of clinical settings. Students work under the direct supervision of a registered radiologic technologist and practice radiographic positioning and equipment manipulation to achieve diagnostic-quality images. The focus of this clinical experience is to obtain and pursue competence in radiographic exams of the pelvis, abdomen, skull, paranasal sinuses and facial bones.

Prerequisites:

- LSR1280

RADT1102 - Fundamental Concepts of Radiologic Technology ..... ***(2 credits)***
This course will introduce the student to foundations of the radiologic technology profession. The content will include: an examination of the organization of health care facilities and radiology departments, the radiologic technologist's role in the health care setting, professional obligations and behaviors, employment opportunities, historical significance of the profession, accreditation of educational programs, educational requirements, certification, registration, and licensure processes, and human diversity in the health care setting.

© 2026 Minnesota State Community and Technical College. We reserve the right to periodically update information without notice. The information in this publication should not be regarded as contractual in nature.

LIMITED SCOPE RADIOGRAPHY

DIPLOMA – 46 CREDITS

Program Plan — "Limited Scope Radiography"

Locations: Detroit Lakes

1st Summer Term (8 credits)

Courses

Course	Crds
BIOL2260 - Human Anatomy and Physiology I	3
COMM1140 - Interpersonal Communication	3
RADT1102 - Fundamental Concepts of Radiologic Technology	2

1st Fall Term (15 credits)

Courses

Course	Crds
LSR1100 - Introduction to Limited Scope Radiography and Patient Care	3
LSR1120 - Image Production I	4
LSR1140 - Radiation Protection	3
LSR1160 - Radiographic Procedures I	5

1st Spring Term (14 credits)

Courses

Course	Crds
LSR1220 - Image Production II	3
LSR1230 - Imaging Equipment and Quality Control	3
LSR1240 - Radiobiology	2
LSR1260 - Radiographic Procedures II	4
LSR1270 - Limited Scope Radiography ARRT Licensure Exam Preparation	2

2nd Summer Term (9 credits)

Courses

Course	Crds
LSR1280 - Radiographic Clinical I	4
LSR1290 - Radiographic Clinical II	5

© 2026 Minnesota State Community and Technical College. We reserve the right to periodically update information without notice. The information in this publication should not be regarded as contractual in nature.