RADIOGRAPHY

Associate in Applied Science (AAS)
Program Code: 10-526-1
Total Credits: 66

Mid-State's Radiography program prepares individuals for a career in diagnostic imaging as a radiographer. Graduates of the program are eligible to apply to take the entry-level certification examination administered by the American Registry of Radiography Technologists (ARRT) and may obtain employment in hospitals, medical clinics, and private offices after successfully gaining state licensure. This program is a shared program with Northcentral Technical College. Students experience a comprehensive foundation for competent, customer-focused radiography with pathways for advanced imaging. The coursework focuses on theoretical and applied radiography and includes clinical experience in a radiology department. Students learn to use imaging technology to demonstrate body parts for diagnostic purposes, including bedside, trauma, pediatric, and special procedures. This program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT).

To learn more about this program, visit **mstc.edu/programs**.

ACADEMIC ADVISOR

To schedule an appointment with an academic advisor, call 715-422-5300. Academic advisors will travel to other campuses as necessary to accommodate student needs. For more information about advising, visit **mstc.edu/advising.**

NEW STUDENT CHECKLIST

Complete the following steps to prepare for your New Student Advising appointment with your academic advisor:

- Submit a Mid-State application at **mstc.edu/apply**.
- Send official transcripts to:
  Mid-State Technical College
  Student Services
  500 32nd Street North
  Wisconsin Rapids, WI 54494
- Complete the Free Application for Federal Student Aid (FAFSA) at **fafsa.gov**. Mid-State's Financial Aid team is available to assist with your FAFSA application and to answer your financial aid questions. Contact Financial Aid or schedule an appointment at **mstc.edu/financial-aid**.
- Set up student MyCampus account at **mstc.edu/mycampus-assistance**.
- Schedule a New Student Advising appointment at **mstc.edu/advising**.

CAREER PATHWAY

Career pathways help you build your education step by step. Each stage offers one or more credentials that are recognized by employers and lead to real jobs—and you can keep building toward your career goals as you go.

Begin at any point.

Prior Learning

Credit for Prior Learning

- Certifications and Licenses
- Military Experience
- National/Standardized Exams
- Transfer Credit
- Work and Life Experience

Learn about Credit for Prior Learning at **mstc.edu/cpl**.

High School Credit

- High School Dual Credit
- Mid-State Fast Track

Learn about High School Credit at **mstc.edu/dc**.

Associate Degree

- Radiography (66 Credits)
  Start Your Career: Radiographer, Radiologic Technician, Radiologic Technologist

Bachelor's Degree

For those interested in continuing their education, Mid-State offers transfer guides with various four-year colleges and universities. For more information, visit **mstc.edu/transfer**.

Other Options

Related Programs: Dental Assistant, Health & Wellness Promotion, Health Information Management, Medical Assistant, Medical Coder, Nursing, Nursing Assistant, Phlebotomy Technician, Respiratory Therapy, Sterile Processing Technician, Surgical Technology

OUTCOMES

Employers will expect you, as a Radiography graduate, to be able to:

- Apply critical thinking and problem solving skills in the practice of diagnostic radiography.
- Model professional and ethical behavior consistent with the ARRT Code of Ethics.
- Provide quality patient care.
- Practice radiation safety principles.
- Carry out the production and evaluation of radiographic images.

TECHNICAL SKILLS ATTAINMENT

The Wisconsin Technical College System (WTCS) has implemented a requirement that all technical colleges measure outcomes attained by students. This requirement is called Technical Skills Attainment (TSA). The main objective of TSA is to ensure graduates have the technical skills needed by employers. Faculty will let students know when and how the Technical Skills Attainment (TSA) is being assessed in the program.

ACCREDITATION

The program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT).

20 N. Wacker Drive, Suite 2850
Chicago, IL 60606-3182
312-704-5300 • Fax: 312-704-5304
Email: mail@jrcert.org

ENTRY CRITERIA

To apply to the Radiography program, please complete the following steps:

1. This program may require a Criminal Background Check and/or Health Record. Acceptance to Northcentral Technical College (NTC) will not be denied based on a criminal background or health record; however, a check may be required for placement at clinical sites or field experiences.
2. You must be 18 years of age to start clinical.
3. Current Basic Life Support (BLS) CPR certification is required prior to starting program courses or within the timeframe discussed at program orientation. Accepted certifications include BLS CPR from American Heart Association or American Red Cross.
4. Verification of high school graduation or GED completion is required.
5. After admission to the College, you will be considered a Radiography - Mid-State student. Students are eligible to submit a financial aid application at this point and can work to complete general education courses as laid out in the program curriculum. Students interested in beginning the core clinical radiography program courses will declare during the designated dates.
6. You may begin your Mid-State coursework prior to high school graduation or GED completion, but this must be completed before transitioning to NTC coursework.

TECHNICAL STANDARDS

A list of specific physical, emotional, and mental tasks needed to function as a radiographer is available at **mstc.edu/programs/radiography**. Contact the Accessibility Services Coordinator in the Student Services & Information Center to receive assistance.

ADMISSIONS PROCEDURES

The Radiography program is a shared offering with Northcentral Technical College (NTC). Students begin coursework at Mid-State and must meet NTC's admissions criteria—including a HESI score of at least 75—to enter the core program. Financial aid should be filed through NTC using FAFSA code 005301.

CLINICAL-RELATED REQUIREMENTS

Prior to placement at a clinical site, students need to pay for a criminal background check and provide documentation of required health work.

Students are responsible for ensuring all requirements remain current during program enrollment.

Clinical sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate clinical experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the clinical course and will not be able to advance in the program.

PROGRAM PROGRESSION

Students apply for this shared Radiography Program through a single application that will put them in the Radiography program at Northcentral Technical College (NTC) and in the Radiography Foundations local certificate at Mid-State Technical College.

Upon completion of the entry requirements, five students annually will transition to the NTC-Pre-Radiography program.

STUDENT HANDBOOK

Visit **mstc.edu/studenthandbook** to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.

GRADUATION REQUIREMENT

The GPS for Student Success course is required for all Mid-State program students and is recommended to be completed before obtaining 12 credits. Some students are exempt from this requirement. Please see your academic advisor for more information.

ADDITIONAL COURSES AS NEEDED

The following courses may be recommended or required if the student does not achieve minimum placement scores.

College Reading and Writing 1
10831104
3 credits
Provides learners with opportunities to develop and expand reading and writing skills to prepare for college-level academic work. Students will employ critical reading strategies to improve comprehension, analysis, and retention of texts. Students will apply the writing process to produce well-developed, coherent, and unified written work.

Pre-Algebra
10834109
3 credits
Provides an introduction to algebra. Includes operations on real numbers, solving linear equations, percent and proportion, and an introduction to polynomials and statistics. Prepares students for elementary algebra and subsequent algebra-related courses.

MULTIPLE MEASURES

Students can place into courses using high school GPA and completed classes. Placement can be determined in the following ways:

- **Multiple Measures Writing (MMW)**
  High school GPA of 2.6 & successful completion of 2.0 credits of high school writing courses with a “C” or better
- **Multiple Measures Reading (MMR)**
  High school GPA of 2.6 & successful completion of 2.0 credits of high school literature courses with a “C” or better
- **Multiple Measures Math 1 (MMM_1)**
  High school GPA of 2.6 & successful completion of 1.0 credit of high school math (Algebra 1 or equivalent) with a “C” or better
- **Multiple Measures Math 2 (MMM_2)**
  High school GPA of 2.6 & successful completion of 2.0 credits of high school math including Algebra 1 and Algebra 2 with a “C” or better
- **Multiple Measures Science 1 (MMS_1)**
  High school GPA of 2.6 & successful completion of 1.0 credit of high school lab science course with a “C” or better
- **Multiple Measures Science 2 (MMS_2)**
  High school GPA of 2.6 & successful completion of 1.0 credit of high school chemistry with a “C” or better

Past high school and college transcripts are used in making course placement decisions.

SAMPLE FULL-TIME CURRICULUM OPTION

Radiography • 66 Total Credits

Term 18 Credits

Course Number	Course Name	CPL	Credits
10806177	General Anatomy & Physiology	Yes	4
10526149	Radiographic Procedures 1	No	5
10526158	Introduction to Radiography	No	3
10526159	Radiographic Imaging	No	3
10526168	Radiography Clinical 1	No	2
10890102	GPS for Student Success	Yes	1

Term 15 Credits

Course Number	Course Name	CPL	Credits
10526191	Radiographic Procedures 2	No	5
10526192	Radiography Clinical 2	No	2
10804107	College Mathematics	No	3
10801195 or 10801136	Written Communication or English Composition 1	Yes	3
10526230	Advanced Radiographic Imaging	No	2

Term 5 Credits

Course Number	Course Name	CPL	Credits
10526193	Radiography Clinical 3	No	2
10809172	Introduction to Diversity Studies	Yes	3

Term 12 Credits

Course Number	Course Name	CPL	Credits
10526194	Imaging Equipment Operation	No	3
10526199	Radiography Clinical 4	No	4
10809198	Introduction to Psychology	Yes	3
10526231	Imaging Modalities	No	2

Term 13 Credits

Course Number	Course Name	CPL	Credits
10526195	Radiographic Image Analysis	No	2
10526189	Radiography Pathology	No	1
10526190	Radiography Clinical 5	No	4
10526197	Radiation Protection and Biology	No	3
10801198	Speech	Yes	3

Term 3 Credits

Course Number	Course Name	CPL	Credits
10526198	Radiography Clinical 6	No	1
10526174	ARRT Certification Seminar	No	2

Please Note

- Credit for Prior Learning (CPL) options are available for some courses. You can visit **mstc.edu/cpl** or contact your academic advisor for details.
- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to **mstc.edu/schedule**.
- Get the latest updates online at **mstc.edu**.

Advanced Radiographic Imaging
10526230
2 credits
Explores the factors that impact image acquisition, display, archiving and retrieval. Guidelines for selecting exposure factors and evaluating images within digital systems are discussed. Principles of digital system quality assurance and maintenance are presented.
Student has satisfied all of the following: [Student has completed all of the following course(s): RADTECH 10526159 - Radiographic Imaging] And Student has satisfied all of the following: [Students who specified one or more of these Programs of Study or Program Foci: Radiography, Radiography - Mid-State]

ARRT Certification Seminar
10526174
2 credits
Provides preparation for the national certification examination prepared by the American Registry of Radiologic Technologists. Simulated registry examinations are utilized.
Student has satisfied all of the following: [Student has completed all of the following course(s): RADTECH 10526189 - Radiographic Pathology, RADTECH 10526190 - Radiography Clinical 5, RADTECH 10526195 - Radiographic Image Analysis, RADTECH 10526197 - Radiation Protection And Biolo] And Student has satisfied all of the following: [Students who specified one or more of these Programs of Study or Program Foci: Radiography, Radiography - Mid-State]

College Mathematics
10804107
3 credits
This course is designed to review and develop fundamental concepts of mathematics in the areas of algebra, geometry, trigonometry, measurement and data. Algebra topics emphasize simplifying algebraic expressions, solving linear equations and inequalities with one variable, solving proportions and percent applications. Geometry and trigonometry topics include; finding areas and volumes of geometric figures, applying similar and congruent triangles, applying Pythagorean Theorem, and solving right triangles using trigonometric ratios. Measurement topics emphasize the application of measurement concepts and conversion techniques within and between U.S. customary and metric system to solve problems. Data topics emphasize data organization and summarization skills, including: frequency distributions, central tendency, relative position and measures of dispersion. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators.
Prerequisite: High School GPA of 2.6 and MMM_1 or Accuplacer Arithmetic of 250 and QAS 234 or ACT Math score of 17 or Pre-Algebra 10834109 with a "C" or better

GPS for Student Success
10890102
1 credit
Integrate necessary skills for student success by developing an academic plan, identifying interpersonal attributes for success, adopting efficient and effective learning strategies, and utilizing Mid-State resources, policies, and processes. This course is recommended to be completed prior to obtaining 12 credits and is a graduation requirement unless you receive an exemption from your program advisor.

English Composition 1
10801136
3 credits
Learners develop and apply skills in all aspects of the writing process. Through a variety of learning activities and written documents, learners employ rhetorical strategies, plan, organize and revise content, apply critical reading strategies, locate and evaluate information, integrate and document sources, and apply standardized English language conventions.
Prerequisite: High School GPA of 2.6 and MMW or Accuplacer Writing of 262 or Accuplacer Reading 253 or ACT English score of 20 or ACT Reading 21 or completion of College Reading and Writing 1 10831104 with a "C" or better

General Anatomy & Physiology
10806177
4 credits
Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare health care professionals who need to apply basic concepts of whole-body anatomy and physiology to informed decision making and professional communication with colleagues and patients.
Prerequisite: High School GPA of 2.6 and MMS_1 and MMM_1 or Accuplacer Reading Skills of 262 and QAS of 246 or ACT Math score of 19 and Reading score of 19 or College Math 10804107 or Intermediate Algebra with Applications 10804118 with a "C" or better, or General Chemistry 10806134, or General Biology 10806114, or Human Body in Health & Disease 31509302

Imaging Equipment Operation
10526194
3 credits
Introduces radiography students to the principles and applications of x-ray technology. Students analyze how x-rays are produced and determine the corrective actions necessary for common equipment malfunctions.
Student has satisfied all of the following: [Student has completed all of the following course(s): RADTECH 10526193 - Radiography Clinical 3, RADTECH 10526230 - Advanced Radiographic Imaging] And Student has satisfied all of the following: [Students who specified one or more of these Programs of Study or Program Foci: Radiography, Radiography - Mid-State]

Imaging Modalities
10526231
2 credits
Introduces radiography students to imaging modalities with an emphasis in computed tomography and cross-sectional anatomy.
Student has completed all of the following course(s): RADTECH 10526193 - Radiography Clinical 3

Introduction to Diversity Studies
10809172
3 credits
This course introduces the study of diversity from a local to a global perspective using a holistic, interdisciplinary approach that encourages exploration and prepares students to work in a diverse environment. The course introduces basic diversity concepts, examines the impact of bias and power differentials among groups, explores the use of culturally responsive communication strategies, and compares forces that shape diversity in an international context.
Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 236 and Writing of 237 or ACT of 15 Reading/16 English

Introduction to Psychology
10809198
3 credits
This science of psychology course is a survey of multiple aspects of behavior and mental processes. It provides an overview of topics such as research methods, theoretical perspectives, learning, cognition, memory, motivation, emotions, personality, abnormal psychology, physiological factors, social influences, and development.
Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 236 and Writing of 237 or ACT of 15 Reading/16 English

Introduction to Radiography
10526158
3 credits
Introduces learners to the role of radiography in health care. Learners apply healthcare communication techniques. Learners are introduced to legal and ethical considerations, patient interactions and management, patient and provider safety, and pharmacology.
Students who specified one or more of these Programs of Study or Program Foci: Radiography, Radiography - Mid-State

Radiation Protection and Biology
10526197
3 credits
Prepares radiography students to protect themselves and others from exposure to radioactivity. Students examine the characteristics of radiation and how radiation affects cell biology. Students apply standards and guidelines for radiation exposure.
Student has completed all of the following course(s): RADTECH 10526194 - Imaging Equipment Operation

Radiographic Image Analysis
10526195
2 credits
Prepares radiography students to analyze radiographic images for quality. Students apply quality control tests to determine the causes of image problems including equipment malfunctions and procedural errors.
Student has satisfied all of the following: [Student has completed all of the following course(s): RADTECH 10526194 - Imaging Equipment Operation] And Student has satisfied all of the following: [Students who specified one or more of these Programs of Study or Program Foci: Radiography, Radiography - Mid-State]

Radiographic Imaging
10526159
3 credits
Introduces radiography students to the process and components of imaging. Students determine the factors that affect image quality including contrast, receptor exposure, spatial resolution and distortion.
Students who specified one or more of these Programs of Study or Program Foci: Radiography, Radiography - Mid-State

Radiographic Pathology
10526189
1 credit
Prepares radiography students to determine the basic radiographic manifestations of pathological conditions. Students classify trauma related to site, complications and prognosis and locate the radiographic appearance of pathologies.
Student has completed all of the following course(s): RADTECH 10526199 - Radiography Clinical 4

Radiographic Procedures 1
10526149
5 credits
Prepares radiography learners to perform routine radiographic procedures of the chest, abdomen, upper and lower extremities, and pelvis. Course includes considerations for mobile and trauma procedures. Learners apply knowledge of human anatomy to position the patient correctly to achieve and evaluate optimal diagnostic quality images which includes identifying radiographically significant anatomy.
Student has satisfied all of the following: [Student has completed or is in process of completing all of the following course(s): SCIENCE 10806177 - Gen Anatomy & Physiology] And Student has satisfied all of the following: [Students who specified one or more of these Programs of Study or Program Foci: Radiography, Radiography - Mid-State]

Radiographic Procedures 2
10526191
5 credits
Prepares radiography students to perform routine radiographic procedures of the skull, facial bones, sinus, spine, bony thorax, gastrointestinal, urological, and special studies. Course includes considerations for contrast, mobile, surgical and trauma procedures. Students apply knowledge of human anatomy to position the patient correctly to achieve and evaluate optimal diagnostic quality images which includes identifying radiographically significant anatomy.
Student has satisfied all of the following: [Student has completed all of the following course(s): RADTECH 10526149 - Radiographic Procedures 1, SCIENCE 10806177 - Gen Anatomy & Physiology] And Student has satisfied all of the following: [Students who specified one or more of these Programs of Study or Program Foci: Radiography, Radiography - Mid-State]

Radiography Clinical 1
10526168
2 credits
This beginning level clinical course prepares radiography stuents to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographic images while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.
Student has satisfied all of the following: [Student has completed or is in process of completing all of the following course(s): RADTECH 10526149 - Radiographic Procedures 1, RADTECH 10526158 - Introduction To Radiography, RADTECH 10526159 - Radiographic Imaging, SCIENCE 10806177 - Gen Anatomy & Physiology] And Student has satisfied all of the following: [Students who specified one or more of these Programs of Study or Program Foci: Radiography, Radiography - Mid-State]

Radiography Clinical 2
10526192
2 credits
This second level clinical course continues to prepare radiography students to perform radiologic procedures on patients with considerable direct and limited indirect supervision. Students apply radiation protection and standard precautions in the production of radiographic images in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.
Student has satisfied all of the following: [Student has completed all of the following course(s): RADTECH 10526168 - Radiography Clinical 1] And Student has satisfied all of the following: [Student has completed or is in process of completing all of the following course(s): RADTECH 10526191 - Radiographic Procedures 2]

Radiography Clinical 3
10526193
2 credits
This third level clinical course prepares radiography students to perform radiologic procedures on patients with varying degrees of direct and indirect supervision. Students apply radiation protection and standard precautions in the production of radiographic images in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the demonstration of communication and critical thinking skills appropriate to the clinical setting.
Student has completed or is in process of completing all of the following course(s): RADTECH 10526191 - Radiographic Procedures 2, RADTECH 10526192 - Radiography Clinical 2, RADTECH 10526230 - Advanced Radiographic Imaging

Radiography Clinical 4
10526199
4 credits
This fourth level clinical course prepares radiography students to perform radiologic procedures on patients. The student transitions from direct to indirect supervision as competency performance increases. Students apply radiation protection and standard precautions in the production of radiographic images in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.
Student has completed all of the following course(s): RADTECH 10526193 - Radiography Clinical 3

Radiography Clinical 5
10526190
4 credits
This fifth level clinical course prepares radiography students to perform radiologic procedures on patients with limited direct and mainly indirect supervision. Students apply radiation protection and standard precautions in the production of radiographic images in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.
Student has completed all of the following course(s): RADTECH 10526199 - Radiography Clinical 4

Radiography Clinical 6
10526198
1 credit
This final clinical course requires students to integrate and apply all knowledge learned in previous courses to the production of high quality images in the clinical setting with minimal direct and primarily indirect supervision. Students apply radiation protection and standard precautions in the production of images in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.
Student has completed or is in process of completing all of the following course(s): RADTECH 10526190 - Radiography Clinical 5

Speech
10801198
3 credits
Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. Includes informative, persuasive, and occasion speech presentations.
Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 253 and Writing of 262 or ACT of 21 Reading/19 English or completion of College Reading and Writing 1 10831104 with a "C" or better

Written Communication
10801195
3 credits
Develops writing skills which include prewriting, drafting, revising, and editing. A variety of writing assignments are designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical reading and thinking skills through the analysis of a variety of written documents.
Prerequisite: High School GPA of 2.6 and MMW or Accuplacer Writing of 262 or ACT English score of 20 or completion of College Reading and Writing 1 10831104 with a "C" or better