Northcentral TECHNICAL COLLEGE

Radiography Program

Student Handbook

Radiography Program

Northcentral Technical College

Center for Health Sciences

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Introduction to NTC Radiography Program

Welcome

Your faculty and staff at Northcentral Technical College Radiography Program would like to welcome you to the start of your rewarding career as a Radiographer. Our Associate Degree Radiography Program is designed to help you become a healthcare professional that provides quality care for our community, district, and state. The courses provide a basis for the knowledge and skills required by the entry-level radiographer designed to prepare you to be successful on your credentialing examination and to provide the highest level of quality patient care. Our performance-based instruction supports the student with web enhanced classes, a state-of-the-art radiographic learning lab, clinical learning experiences and a host of support services provided by the college. We look forward to being a part of your learning journey.

The Radiography program was established at Northcentral Technical College in August 1972. Previously, the radiography program was a hospital-based program housed at Saint Mary's Hospital on Wausau's eastside. The first class at NTC graduated in May of 1974. The program is authorized to admit approximately 30 students per year.

NTC Vision Statement

Building futures as our community's college of choice.

NTC Mission Statement

Northcentral Technical College enriches our communities by providing high quality student and employer focused educational pathways that transform lives

Radiography Mission Statement

The Northcentral Technical College Radiography program provides a comprehensive foundation for competent, customer focused radiography professionals for our community with pathways for advanced imaging.

Program Accreditation

The NTC Radiography Program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). This committee is responsible for overseeing adherence to the Standards of an Approved Radiography program. *(See JRCERT standards document via online at www.jrcert.org).* The standards and program self-study completed for the most recent JRCERT site visit may be requested and reviewed at any time. See program faculty for documents.

JRCERT responds to allegations of radiography programs being in non-compliance with the current accreditation standards. Students can submit formal complaints following their procedure located at on their website under the "Students" tab. www.jrcert.org

Program Philosophy

Diagnostic radiography is among the most rapidly evolving technologies in an expanding health care system. The use of x-rays to produce images for the medical diagnosis of health problems requires a thorough understanding of anatomy and the biological effects of radiation exposure. Having the ability to utilize equipment, computer systems, and to select techniques by which such exposures can be minimized and exemplary images can be produced. In achieving the above, it is our aim to prepare the student to meet the community need for radiographers and to be prepared to sit for the American Registry of Radiologic Technologists.

We believe that the primary function of the Radiography Program is to produce qualified radiographers, capable of applying scientific and humanitarian knowledge, and able to use good judgment and acquired skills to provide excellence in patient care, while performing diagnostic procedures and assisting the physician and/or radiologist in specialized diagnostic and therapeutic procedures.

The educational process is designed as a sequence of instructional and evaluation experiences based on objectives, outcomes and goals to measure the competency of the student. Each person is viewed holistically, with emphasis placed on the inherent dignity and worth of the person in the classroom and clinical setting.

The radiography faculty, Radiography Assessment Committee and the Radiography Advisory Committee are responsible for ongoing program and curriculum evaluation, assessment of strengths and areas of improvement, as well as remaining in touch with the current state of the art.

Program Goals

Goal 1: Students will demonstrate professionalism.

- Students will demonstrate professional behavior.
- Students will understand professional ethics.

Goal 2: Students will demonstrate communication skills.

- Students will demonstrate effective interpersonal communication skills.
- Students will demonstrate effective patient communication skills.

Goal 3: Students will demonstrate critical thinking.

- Students will adapt to changing exam conditions
- Students will critique images for quality.

Goal 4: Students will demonstrate entry level radiographer clinical competence.

- Students will perform routine positioning skills.
- Students will demonstrate quality patient care.
- Students will demonstrate radiation protection skills.

Goal 5: Graduates will be satisfied, ARRT successful and meet the needs of employers.

- Radiography students will complete the program at an acceptable rate.
- Graduates will pass the ARRT exam.
- Graduates will obtain related employment.
- Graduates will indicate satisfaction with the program.
- Graduates will satisfy employers with their performance.

Program Outcomes in collaboration with Wisconsin Technical College System

Graduates will be able to:

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

Technical Standards Criteria

It is the intent of NTC to fully comply with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990 and the ADA Amendment Act of 2008.

NTC offers reasonable accommodations to students with a disability. Reasonable accommodations include modifications or adjustments that allow individuals with disabilities to gain equal access and equal opportunities to participate in NTC's courses, services, activities and use of NTC's facilities.

When considering accommodations, NTC will engage in an interactive process to explore if any might effectively allow an individual to participate in and satisfy the criteria of the program. NTC will make any such reasonable accommodations that do not pose an undue hardship for NTC, produce a threat to the health and safety of others or substantially alter the nature of the program.

- Accommodations allowed without disability documentation: supportive back brace that does not impede required movement or interfere with infection control policies, hearing aids, glasses and/or contacts.

- Disability accommodations will require the approval of the Director of the Center for Access and Accommodations in conjunction with the program director and state agencies if applicable. In order to provide as much time possible to discuss potential reasonable accommodations and arrange for their implementation, individuals who believe they will need an accommodation are asked to contact NTC's Center for Access and Accommodations at least three weeks prior to the start of a course. If you have a documented disability and would like to request accommodations please complete an accommodations application form on the NTC website by visiting www.ntc.edu/center for access and accommodations. Disability documentation must be submitted to this Center that is provided by a licensed professional qualified in the appropriate specialty area. For questions on the accommodation process or assistance with completing the online form, please contact the Center at 715.803.1469, TTY 1-800-947-3529 or Relay 711.

Technical Standards and Attributes List

The following is a list of technical skills and abilities necessary to practice as a radiographer. If you feel lacking in any of these areas and require outside assistance to succeed, contact the Center for Access and Accommodations to receive assistance.

Gross Motor Skills:	• Move within confined spaces • Maintain balance in multiple positions • Reach above shoulders (e.g., IV poles, x-ray tubes) • Reach below waist (e.g., plug electrical appliance into wall outlet) • Reach out front
Fine Motor Skills:	• Pick up objects with hands • Grasp small objects with hands (e.g., IV tubing, pencil) • Write with pen or pencil • Key/type (e.g., use a computer) • Pinch/pick or otherwise work with fingers (e.g., manipulate a syringe) • Twist (e.g., turn objects/knobs using hands)
Physical Endurance:	• Stand (e.g., at client side during surgical or radiographic procedures) • Sustain repetitive movements (e.g., CPR) • Maintain physical tolerance (e.g., work on your feet a minimum of 8 hours)
Physical Strength:	• Push and pull 50 pounds (e.g., position client, move equipment) • Support 50 pounds of weight (e.g., ambulate client) • Lift 50 pounds (e.g., pick up a child, transfer a client, bend to lift an infant or child) • Carry equipment/supplies • Squeeze with hands (e.g., operate fire extinguisher)
Mobility:	• Twist, bend, stoop and squat • Move quickly (e.g., response to an emergency) • Climb stairs • Walk
Hearing:	• Hear normal speaking-level sounds (e.g., person-to-person report) • Hear faint voices • Hear faint body sounds (e.g., blood pressure sounds, assess placement of tubes) • Hear in situations when not able to see lips (e.g., when masks are used) • Hear auditory alarms (e.g., monitors, fire alarms, call bells)
Visual:	• See objects up to 20 inches away (e.g., information on computer screen, skin conditions) • See objects up to 20 feet away (e.g., client in room) • Use depth perception • Use peripheral vision • Distinguish color and color intensity (e.g., color codes on supplies, flushed skin/paleness)
Smell:	• Detect odors (e.g., foul drainage, alcohol breath, smoke, gasses, or noxious smells)
Reading:	• Read and understand written documents and digital displays (e.g., charts, graphs)
Tactile:	• Feel vibrations (e.g., palpate pulses) • Detect temperature (e.g., skin, solutions) • Feel differences in surface characteristics (e.g., skin turgor, rashes) • Feel differences in sizes, shapes (e.g., palpate vein, identify body landmarks) • Detect environmental temperature
Environment:	• Tolerate exposure to allergens (e.g., latex gloves, chemical substances) • Tolerate strong soaps and odors

Cognitive:	• Measure, calculate, reason analyze and synthesize data. • Recall, collect, analyze, synthesize and integrate information from a variety of sources.
Emotional Stability:	• Establish professional relationships • Provide client with emotional support • Adapt to changing environment/stress • Deal with the unexpected (e.g., client condition, crisis) • Focus attention on task • Cope with own emotions • Perform multiple responsibilities concurrently • Cope with strong emotions in others (e.g., grief)
Analytical Thinking:	• Transfer knowledge from one situation to another • Process and interpret information from multiple sources • Analyze and interpret abstract and concrete data • Evaluate outcomes • Problem solves • Prioritize tasks • Use long-term and short-term memory
Critical Thinking:	• Identify cause-effect relationships • Plan/control activities for others • Synthesize knowledge and skills • Sequence information • Make decisions independently • Adapt decisions based on new information
Interpersonal Skills:	• Establish rapport with individuals, families, and groups • Respect/value cultural differences in others • Negotiate interpersonal conflict
Communication Skills:	• Teach (e.g., client/family about health care) • Influence people • Direct/manage/delegate activities of others • Speak and write English • Listen/comprehend spoken/written word • Collaborate with others (e.g., health care workers, peers) • Manage information

Technical Skills Attainment

The Radiography Technical Skills Attainment (TSA) is a Wisconsin Technical College summative assessment that is completed during the final semester of the Radiography Program. The TSA program objectively measures a student's attainment of industry recognized skills in application and critical thinking. Each student that has successfully completed each of the radiography courses and the clinical assignments will have demonstrated the skills and concepts necessary to become a successful Radiographer in the workplace. The TSA document verifies graduate attainment at meeting program outcomes. - See TSA Checklist next page.

Radiography Technical Skills Attainment Summative Assessment

Wisconsin Technical College System

Directions

This TSA scoring guide will be used to document attainment of technical Radiography program outcomes during clinical semester six. To meet the requirements on this scoring guide, you will use the skills and concepts that have been developed throughout the program and necessary for successful Radiography employment. You also must demonstrate competence on all 15 mandatory procedures and 15 of 30 elective procedures on the ARRT Clinical Competency Requirements as an over-all requirement.

Your instructor will complete this scoring guide and give you feedback in each area.

Program Outcomes

A. Carryout the production and evaluation of radiographic images
B. Apply computer skills in the radiographic clinical setting
C. Practice radiation safety principles
D. Provide quality patient care
E. Model professional and ethical behavior consistent with the ARRT Code of Ethics
F. Apply critical thinking and problem-solving skills in the practice of diagnostic radiography

Rating Scale

PASS: Meets basic standards **FAIL:** Does not meet basic standards

*You must achieve a rating of PASS on all criteria for each program outcome to demonstrate competence. A rating of FAIL on **any** criterion results in a FAIL score for this TSA Assessment.*

Scoring Guide

Program Outcomes and Criteria

Carryout the production and evaluation of radiographic images	***PASS***	***FAIL***
• Position patient for specified examination	_____	_____
• Select appropriate exposure factors and make exposure	_____	_____
• Evaluate final images for acceptable exposure quality, anatomical presentation, and patient identifying information	_____	_____

***COMMENTS*:**

Apply computer skills in the radiographic clinical setting	***PASS***	***FAIL***
• Operate HIS/RIS systems	_____	_____
• Orient and annotate image	_____	_____
• Prepare, send and archive images	_____	_____

COMMENTS

Practice radiation safety principles	***PASS***	***FAIL***
• Use proper collimation	_____	_____
• Shield patient and others	_____	_____
• Wear personnel dosimeter	_____	_____
• Practice radiation cardinal principles: time, distance, & shielding	_____	_____

***COMMENTS*:**

Provide quality patient care	***PASS***	***FAIL***
• Identify correct patient and procedure to perform	_____	_____
• Assess patient condition and respond accordingly	_____	_____
• Obtain and document accurate patient history	_____	_____
• Explain exam and give clear instructions	_____	_____
• Communicate/interact with patients as appropriate	_____	_____
• Provide for patient modesty and comfort	_____	_____

COMMENTS:

Model professional & ethical behavior consistent with the ARRT Code of Ethics	***PASS***	***FAIL***
• Maintain confidentiality	_____	_____
• Interact professionally with healthcare professionals, patients and family	_____	_____
• Respect diversity	_____	_____

COMMENTS:

Apply critical thinking and problem-solving skills in the practice of diagnostic radiography	***PASS***	***FAIL***
• Adapt procedure to patient condition	_____	_____
• Adapt exposure techniques to patient's physical and pathological conditions	_____	_____
• Use logic and judgment in performing procedure efficiently	_____	_____
• Evaluate image for quality. Implement corrective action if necessary	_____	_____

COMMENTS:

Over all ARRT requirements	***PASS***	***FAIL***
• You demonstrate competence in all procedures identified as mandatory (M) on the Clinical Competency Procedure List.	_____	_____
• You demonstrate competence in 15 of the 30 electives (E) on the Clinical Competency Procedure List.	_____	_____

	PASS	***FAIL***
TSA Assessment Score:		

*Each program outcome and the over-all requirements must earn a rating of "Pass"

Student Name:		**ID #:**	
Evaluator Signature:		**Date:**	

Ethical Code – ARRT

Preamble

Ethical professional conduct is expected of every member of the American Society of Radiologic Technologists and every individual registered by the American Registry of Radiologic Technologists. As a guide, the ASRT and the ARRT have issued a code of ethics for their members and registrants. By following the principles embodied in this code, radiologic technologists will protect the integrity of the profession and enhance the delivery of patient care.

Adherence to the code of ethics is only one component of each radiologic technologist's obligation to advance the values and standards of their profession. Technologists also should take advantage of activities that provide opportunities for personal growth while enhancing their competence as caregivers. These activities may include participating in research projects, volunteering in the community, sharing knowledge with colleagues through professional meetings and conferences, serving as an advocate for the profession on legislative issues and participating in other professional development activities.

By exhibiting high standards of ethics and pursuing professional development opportunities, radiologic technologists will demonstrate their commitment to quality patient care.

ARRT Code of Ethics

The Code of Ethics forms the first part of the Standards of Ethics. The Code of Ethics shall serve as a guide by which Certificate Holders and Candidates may evaluate their professional conduct as it relates to patients, healthcare consumers, employers, colleagues, and other members of the healthcare team. The Code of Ethics is intended to assist Certificate Holders and Candidates in maintaining a high level of ethical conduct and in providing for the protection, safety, and comfort of patients. The Code of Ethics is aspirational.

Use link to access the ARRT code of ethics. https://assets-us-01.kc-usercontent.com/406ac8c6-58e8-00b3-e3c1-0c312965deb2/37b3dd0a-1049-4af9-91e4-ed639545b547/code-of-ethics.pdf

Certification/Licensure

1. American Registry of Radiologic Technologists Certification (ARRT)

Upon completion of the Radiography Program, the graduate has met the professional educational requirements for certification by the ARRT and is eligible to apply to take the certification examination.

General qualifications for eligibility for certification by the ARRT require that candidates be of good moral character. If an applicant has ever been convicted of misdemeanor charges, a felony offense, military court martial, or honor code violation, they may elect to visit the ARRT website and complete an "Ethics Review Pre-Application". This process will require court documents and evidence of having served the entire sentence, including probation and parole, with restoration of civil rights before being admitted to the certification exam. Students who have had previous convictions may apply to ARRT for precertification prior to program registration. Enrolled students may complete an ethics review up to six months prior to graduation. This review process assures that the student will be eligible to sit for the certification examination upon program completion.

2. Licensure

In 2010, Wisconsin enacted a law which establishes licensing and permitting requirements for those who perform medical radiography or provide medical radiographic services. The 2009 Wisconsin Act 106, which created Chapter 462 of the Wisconsin statutes, requires that any person, who performs radiography or operates an X-ray machine or X-ray equipment, shall obtain a license to perform radiography.

ARRT certified radiographers will need to submit an application with proof of active ARRT certification and pay the required fees for the state license. Wisconsin does allow for Radiography program candidates to submit a licensing application for pre-approval to determine whether the individual would be disqualified from obtaining the credential due to their conviction record. This application may be submitted prior to entering the Radiography program. Additional details can be found at the website of Wisconsin Department of Safety and Professional Services, under Health-Licensed Radiographer. http://dsps.wi.gov

Students enrolled in an accredited radiography program may operate X-ray machines under the supervision of a credentialed and licensed Radiographer. Students may not be employed to operate an X-ray machine during the education process. Upon graduation, the new ARRT registered technologist may apply for a state of Wisconsin license.

Curriculum

The Radiography curriculum consists of 65 credits. Course descriptions are published on the NTC Website www.ntc.edu. Maximum program involvement shall not exceed 40 hours per week.

First Semester: FALL

Course Name and Number		Course Description	Hours/Week	Credits
College 101 *Course required by college not considered part of program courses*	10-890-165	Examines proven strategies designed to help students achieve greater personal, academic, and professional success. Students will apply personal responsibility thinking and behaviors; self-management, awareness, and motivation strategies; as well as interdependence skills to develop a proactive life plan.	1 hr.	1
Radiographic Imaging **Prerequisite: Admission to the Radiography Program*	10-526-159	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.	2 hrs. lecture 2 hrs. Lab	3
Radiographic Procedures I **Prerequisite: Admission to Radiography program* *Pre/Corequisite: General Anatomy and Physiology*	10-526-149	Prepares radiography students to perform routine radiographic procedures of the chest, abdomen, upper and lower extremities, and pelvis. Course includes considerations for mobile 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.	3 hrs. lecture 4 hrs. lab	5
Introduction to Radiography **Prerequisites: Admission to Radiography program*	10-526-158	Introduces students to the role of radiography in health care. Students apply healthcare communication techniques. Students are introduced to legal and ethical considerations, patient interactions and management, patient and provider safety, and pharmacology.	2 hrs. lecture 2 hrs. Lab	3
Radiography Clinical I **Prerequisite: Admission to Radiography program, Clinical Orientation Completion* *Pre/Corequisite: Introduction to Radiography, Radiographic Procedures 1, Pre/Corequisite: Radiographic Imaging 1* *Pre/Corequisite: Gen Anatomy & Physiology*	10-526-168	This beginning level clinical course prepares radiography students 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. This beginning level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. 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.	90-hrs. clinical for semester Average 8-16 hours per wk	2
General Anatomy & Physiology **Prerequisite: Two semesters of high school chemistry or one semester of college chemistry with a "C" or better.*	10-506-177	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. (This course also provides the foundation, and is prerequisite to, Advanced Anatomy and Physiology.	3 hrs. lecture 2 hrs. lab	4
		Total hours First Semester	**28 hrs./week** 13 RAD Credits 4 Gen Ed	

Second Semester: SPRING

Course Name and Number		Course Description	Hours/Week	Credits
Advanced Radiographic Imaging **Prerequisite: Admission to the Radiography Program, Prerequisite: Radiographic Imaging*	10-526-230	Explores the factors that impact image acquisition, display, archiving and retrieval are discussed. Guidelines for selecting exposure factors and evaluating images within analog and digital systems. Principles of digital system quality assurance and maintenance are presented.	1 hrs. lecture 2 hrs. lab	2
Radiographic Procedures 2 **Prerequisite: Admission to Radiography program, Radiographic Procedures 1, Prerequisite: General Anatomy and Physiology*	10-526-191	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.	3 hrs. lecture 4 hrs. lab	5
Radiographic Clinical 2 **Prerequisite: Radiography Clinical 1*	10-526-192	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.	90 hrs of clinical per semester Average 16 hours per wk.	2
College Mathematics	10-804-107	This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between U.S. and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.	3 hrs.	3
Written Communication OR _____ ***English Composition 1***	10-801-195 _____ 10-181-136	Develops writing skills which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the student 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. _____ This course is designed for students to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing and revising are applied through a variety of activities. Students will analyze audience and purpose, use elements of research and format documents using standard guidelines. Individuals will develop critical reading skills through analysis of various written documents.	3 hrs. lecture _____ 3 hrs. lecture	3 _____ 3
		Total hours Second semester	**32 hrs./week** 10 Rad Credits 6 Gen Ed	

Third Semester: SUMMER (9 weeks)

Course Name and Number		Course Description	Hours/Week	Credits
Radiography Clinical 3 **Prerequisite: Radiography Clinical 2*	10-526-193	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.	24 hr/week For a total of 90 hours for 7-8 weeks	2
Introduction to Diversity Studies	10-809-172	Introduces students to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the student to work in a diverse environment. In addition to an analysis of majority/minority relationships in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability and religion are explored.	3 hrs. lecture	3
		Total hours Third Semester	**27 hrs./week** 3 RAD Credits 6 Gen Ed	

Fourth Semester: FALL

Course Name and Number		Course Description	Hours/Week	Credits
Imaging Equipment Operation **Prerequisite: Admission to the Radiography Program*	10-526-194	Introduces radiography students to the principles and application of x-ray technology. Students analyze how x-rays are produced and determine the corrective actions necessary for common equipment malfunctions.	3 hrs. lecture	3
Imaging Modalities **Prerequisite: Admission to the Radiography Program or department approval*	10-526-231	Introduces radiography students to imaging modalities with an emphasis in computed tomography and cross-sectional anatomy.	2 hrs. lecture	2
Radiography Clinical 4 **Prerequisite: Radiography Clinical 3*	10-526-199	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.	24 hrs. clinical per week Total of 360 hours	4
Intro to Psychology **Prerequisite: Admission to the Radiography Program or department approval*	10-809-198	This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social and vocational settings.	3 hrs. lecture	2
		Total hours Fourth Semester	**32 hrs./week** 8 RAD Credits 3 Gen Ed	

Fifth Semester: SPRING

Course Name and Number		Course Description	Hours/Week	Credits
Radiography Protection and Biology *Prerequisite: Admission to the Radiography program or department approval	10-526-197	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.	3 hr. lecture	3
Radiographic Image Analysis *Prerequisite: *Imaging Equipment Operation, Prerequisite: Admission to the Radiography program*	10-526-195	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.	1 hrs. lecture 2 hrs. lab	2
Radiographic Pathology *Prerequisite: *Admission to the Radiography program*	10-526-189	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.	1 hrs. lecture	1
Radiographic Clinical 5 *Prerequisite *Radiography Clinical 4*	10-526-190	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.	24 hrs. clinical per week for a total of 360 hours	4
Speech	10-801-198	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 the course.	3 hrs. lecture	3
		Total hours Fifth Semester	**31 hrs./week** 8 RAD Credits 3 Gen Ed	

Sixth Semester: SUMMER (5 weeks)

Course Name and Number		Course Description	Hours/Week	Credits
ARRT Certification Semina *Prerequisite: Admission to the Radiography Program*	10-526-174	Provides preparation for the for the national certification examination prepared by the American Registry of Radiologic Technologists. Simulated registry examinations are utilized.	8 hrs.	2
Radiography Clinical 6 *Prerequisite: Admission to the Radiography Program or department approval*	10-526-198	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.	32 hrs. clinical per week for a total of 90 hours	1
		Total hours Sixth Semester	**40 hrs./week** 4 RAD Credits	

Total Program Credits 65 credits

Program Grading Scale for Health Sciences including Radiography

A	**100-93.5 %**	**A-**	**93.4- 91.5%**
B+	**91.4–87.5 %**	**B**	**87.4- 83.5%**
B-	**83.4- 81.5%**	**C+**	**81.4- 80.5%**
C	**80.4- 79.5%**	**D**	**79.4 – 64.5%**
F	**Less than 64.5%**		

1. An overall average of 80% must be obtained to pass the course.

2. Grades are calculated to the tenth decimal point and rounded up for .5 or higher *(Example 79.5 = 80%)*

3. For Didactic courses, assignments, Exams & Lab are weighted 80% and the final examination is worth 20%
   A course average of 75% must be attained to be eligible to sit for the final exam
   A score below 75% on the final examination constitutes failing the course.
   See individual clinical courses for specific assignment weighting

4. Students failing or dropping 526-149 Radiographic Procedures 1, or 526-191 Radiographic Procedures 2 prior to week 13 of the semester, will not be allowed in related clinical assignments due to linked competencies. The student will not have the basic skills to complete the clinical assignments. The student may elect to withdraw from the clinical course or receive a failing grade

5. Final course grades can be viewed by going to www.ntc.edu , clicking on WORKDAY and following the instructions listed. For more information on grading and academic procedures, please review the NTC Policies and Guidelines

6. For information on other NTC grades, see NTC website: https://www.ntc.edu/policies/grading-system.

Note regarding incomplete grades: per NTC policy

"*For coursework not completed due to extenuating circumstances, instructors may, in cases they deem appropriate, agree to accept a student's work up to 30 days after the course has ended. The instructor can require a shorter deadline if desired. The instructor and student should complete the Incomplete Coursework form and submit the form to the Registrar's office. The instructor should issue/enter the "I" grade at the end of the semester along with student's last date of attendance.*
Upon evaluation of work submitted after the last day of class, the instructor should submit a grade change request for the student. Students should have completed a substantial portion of their semester course work prior to receiving an extension. If the student does not complete the course requirements by the agreed upon or extended deadline a "F" grade will be automatically entered after the 30-day period has ended.

Successful Progression

Program students who successfully complete all of the required Radiography courses of their current semester are eligible to enter the subsequent semester. Successful completion means earning a C (80%) or better in each 526 and science courses. Those transferring in from other colleges must have a C or better in program courses in order to progress. Students must obtain a C or better in any general education course that is a pre/co-requisite to any radiography program courses.

Students register for courses following the schedule and process established by NTC using the WORKDAY web portal.

Academic (Grade) Appeal Form

Students who receive a final academic grade that the student deems inaccurate or unjust have the right to appeal the academic decision. The Academic Appeal form will be used by students and staff to document the appeals process. The electronic version of the Academic Appeal form can be found on NTC's website.

Program Requirements for Graduation

To earn an associate degree, a student must successfully complete the curriculum in effect when they began the program and demonstrate their competencies. A minimum of 65 credits and a grade point average (GPA) of 2.0 - C or better is required in all courses that are needed for graduation. Students should access **WORKDAY** to view progress, grades and courses. NTC Radiography program advising is available by meeting with program faculty and the college advising specialist for health in student services. Students may schedule appointments as needed. It is the obligation of each student to assume responsibility for understanding and fulfilling the requirements of the program and institution for graduation.

Transfer Credit and Credit for Prior Learning

Transfer Credit or Credit for Prior Learning may be earned when you transfer from another institution to NTC. Student Records will review your official transcript from the accredited institution to determine if previous credit earned can be applied to your program. Students are encouraged to use Transferology, a nationwide database of selected accredited institutions for a preliminary unofficial transfer evaluation. Please refer to https://www.ntc.edu/admissions/credit-prior-learning/transfer for specific details.

For Radiography, no more than 49% of program courses may be transferred in to NTC. (JRCERT 11.407A iv Accreditation Policies) In addition, all American Registry of Radiologic Technology (ARRT) required skills/competencies from each transferred course must be demonstrated to receive transfer credit. Transcript evaluation and skills demonstration must occur prior to the start of the semester in which the course is offered at NTC.

Current NTC students wishing to transfer out to one of our 4-year partners can also seek information via NTC's website https://www.ntc.edu/students/transfer

Academic Policies and Procedures

NTC Student Policies and Procedures

Please review all NTC current student procedures and personal conduct requirements published on the NTC website www.ntc.edu current students – student guidelines and procedures. The Radiography Program follows college policies in each of these areas.

Academic Evaluation

Didactic/Theory course performance is evaluated following the learning and assessment plans in individual course syllabi. Student progress is available throughout the semester by checking your grade in the Canvas course grade center or requesting to meet with the course instructor.

Academic Honesty and Honor Code within the Radiography Program

Although NTC does enforce an Academic Honesty policy, students enrolled in the Radiography Program are also held to the American Registry of Radiologic Technologists (ARRT) Honor Code. The registry application will ask each student to respond to questions about violations or sanctions related to ethics and honor codes. All candidates must sign a written consent under the Family Educational Rights and Privacy Act (FERPA) that allows ARRT to communicate with program directors to obtain parts of your educational records concerning violations of any honor code. The NTC Radiography Program director must verify that each student has not had any ethical or honesty issues during the course of the Radiography Program. Students that have had a violation must submit documents for ARRT ethics review and may be ineligible to sit for the ARRT Registry. This would prohibit employment in the field of Radiography. Examples of violation of an honor code include: cheating, plagiarism, falsification of any clinical records, an inappropriate level of patient care, unsafe clinical practices, HIPAA violations, or attending class or clinical under the influence of drugs or alcohol.

- ***Plagiarism*** - presenting someone else's words, ideas, or data as your own work.
- ***Fabrication*** - using invented information or the falsifying research or other findings.
- ***Misusing*** - copyrighted materials
- ***Cheating*** - misleading others to believe you have mastered competencies or other learning outcomes that you have not mastered. Examples include, but are not limited to:

    - Copying from another student's work
    - Allowing another student to copy from your work
    - Using resource materials or information to complete an assessment without permission from your instructor
    - Collaborating on an assessment (graded assignment or test) without permission from the instructor
    - Taking a test for someone else or permitting someone else to take a test for you
    - Selling or buying products such as papers, research projects or other artifacts that document achievement or learning outcomes.
    - Tampering with grades
    - Obtaining or distributing any part of an assessment

Testing Confidentiality:

- You may not disclose or discuss with anyone information about the items or answers seen in your exam (this includes posting or discussing questions on the internet and social media websites).
- You may not reconstruct exam items using your memory of your exam or the memory of others.
- You may not seek help from any other party in answering items (in person, by phone, text, email or electronic resources) during your exam.
- You may not remove exam items and/or responses (in any format) or notes about the exam.
- You may not copy, scan, photograph, save or reconstruct exam items during or following your exam for any reason.
- You will comply with any investigation that needs to be conducted.
- Note: If you witness any of the above behavior, or any irregular behavior that is in violation of the NTC Exam Rules, you are required to report it to NTC faculty and comply with any follow up investigation.

*Online Exams utilize HonorLock and the following items **may not be accessed** at all during your exam:*

- Any educational, test preparation or study materials not agreed upon with instructor in advance;
- Cell/mobile/smart phones, tablets, smart watches, MP3 players, fitness bands, jump drives, cameras or any other electronic devices;
- Weapons of any kind.

Whether on or off campus, you are required to store your electronic devices (cell/mobile/smart phones, tablets, smart watches or other electronic devices) outside of the testing area. If you refuse to store your electronic devices you will not be allowed to take your exam. You will be required to reschedule the exam and possibly incur a 5% reduction in exam grade.

Student Performance Remediation and Due Process

Remediation Plans

Remediation plans may be developed with the student in situations where a student's clinical or didactic progress is deteriorating or if they are experiencing an excessive loss of Integrity points in a clinical course. An individualized plan for the student to succeed is developed with input from the student and the faculty member. Plans will include steps for improvement: identifying skills to improve, identification of methods used as evidence of lack of skill, contain dated, actionable steps, faculty/student meetings during the plan and ways to determine success on meeting the goal. The plan should include college resources if appropriate, conferences and a completion deadline.

Student Due Process

Student Due Process policies are located at www.ntc.edu under current students, policies and guidelines. These are designed for NTC students facing disciplinary action from campus violations or student ethics violations. This includes Behavioral Sanctions imposed by the college. https://www.ntc.edu/sites/default/files/2021-04/ntc-code-of-conduct.pdf

Due Process Dismissal or Behavior Dismissals

A student may be unsuccessful in the Radiography Program for other reasons including, but not limited to, academic misconduct (cheating), behavioral misconduct, inappropriate and unsafe behaviors. These students are not eligible for re-entry into the Radiography program. NTC expected student behaviors can be located at the NTC website under Student Guidelines and Policies- Student Behavioral Guidelines and Student Code of Conduct.

In addition, the student will abide by procedures of the clinical education agency particularly in matters relating to patient care, patient/staff interactions and radiation protection. Unsafe or inappropriate clinical behaviors are cause for immediate dismissal from a clinical course and failing grade is assigned. Depending on the specific instance, the student may not be allowed back at a clinical site and program progression may not be possible. A student is subject to the same disciplinary measures as an employee of a clinical education affiliate. Serious infractions of procedures of the clinical affiliate and unsafe behaviors may constitute grounds for immediate dismissal from the program without option of re-entry.

Examples are the confidentiality procedure, abusive language or actions, falsification of records, gross carelessness in patient care procedures, and tobacco, drug, or alcohol use during clinical assignments. This list is not inclusive. Clinical sites have a contracted right to refuse access by any student for specified reasons. Anytime a student fails a clinical course for any reason, they are not reassigned to that site for the second attempt.

Failure or Withdrawal of one or more Courses

Students who do not successfully complete all of the program courses may or may not be eligible to continue in their program based on pre and co requisites of the courses for the next semester. Withdrawing from a course may count as an unsuccessful attempt ("W" on transcript) according to the NTC Withdrawal policy.

- STUDENT MAY BE OUT OF PROGRAM SEQUENCE, BUT NOT OUT OF THE PROGRAM, IF ONE OF THE FOLLOWING OCCURS:
  a. One unsuccessful attempt or failing grade for any single course
  b. Two unsuccessful attempts or failing grades in two separate program courses

- STUDENT WILL BE DISMISSED FROM THE PROGRAM IF ONE OF THE FOLLOWING OCCUR:
  a. Two unsuccessful attempts or failing grades for any single didactic or clinical course
  b. Three unsuccessful attempts or failing grades for three different program courses
     The student will receive a letter of dismissal and information about re-admission.

Note: *As with all students in Health Division programs, any potential re-admitted student is required to satisfactorily complete all requirements and technical standards of the program to which they have been accepted.*

Allied Health Program Re-Admission Policy

Policy Statement

The Northcentral Technical College (NTC) Allied Health Programs may re-admit students based on academic standards*, evaluation of Admission Portfolio, and program space availability. Students wishing to be readmitted to an allied health program should contact the admissions office to initiate the process whereby the Allied Health Program Admissions committee will review application materials quarterly following the academic year calendar July 1st to June 30th.

Returning after Program Withdrawal or Multiple Failures

Students who withdraw from the program or do not achieve an 80% or better in any 526 Radiography course twice or have failed General Anatomy & Physiology (GAP) 3 times will be asked to submit a formal written request and supporting documentation to return to the Radiography Program. Returning applies only to students who were unsuccessful academically and not dismissed under due process. The request will be reviewed by the Re-Entry Committee composed of the Radiography Program Director, Associate Dean of Health, Radiography faculty member and the college advising specialist for health programs. The re-entry committee will review the request packet and schedule a meeting with the student to discuss their ability to return to the Radiography program.

The written request should include:

- Radiography Program Repeat Course Form
- A personal letter that addresses: Why student wants to re-enter the Radiography program, why unsuccessful in the past and how they will be successful this time.
- Outline of the students' plan for success.
- Actions the student has done to increase probability of success.
- Unofficial Transcripts of recent successful courses
- Reference letters from employer or non-family who is familiar with the students' academic goals and abilities

The reentry candidate should consider taking low cost courses from the NTC Learning Center to increase basic skills that may have contributed to lack of success such as test taking strategies or study skills. The candidate may also complete support courses such as medical terminology, math, or related science courses.

The Re-entry Committee will provide the student with a written decision and rationale regarding re-entry within 10 business days of the meeting.

If the student is permitted to re-enter the Radiography Program, a learning contract will be developed with the student, outlining the student's Plan for Success. The plan will include assessment of theoretical, skill and clinical knowledge to determine appropriate placement within the Radiography program. The student may need to demonstrate competencies or written evaluations of a course(s), repeat a course, or start the Radiography program over, to improve the student's ability to be successful as they progress through the sequential courses. Consideration will be given to the length of time elapsed since the course was originally taken. Clinical health, orientation, criminal background checks, CPR and all required clinical documents and must be current, utilizing Certified Background.

Sites accepting students who have failed clinical due to dismissal from another site, have the right to know the reason(s) for previous dismissal, and may elect not to accept the student in a clinical class. Should sites refuse student for clinical classes, program re-entry will not occur. Students unable to continue in the Radiography Program will be counseled by the college advising specialist for health programs for alternate career paths.

Revision 2018

Student Complaints

A complaint is an expression of dissatisfaction about something or someone that is the cause or subject of protest.
Informal Complaint – Students are encouraged to talk informally to the program faculty for any complaint. Students should follow the chain of command and first bring concerns to the instructor teaching the course with the intent to resolve the complaint at this level. Initially this may be an informal verbal conversation. If the complaint is not satisfactorily resolved with an informal conversation, the student should follow the formal complaint process.

Formal Complaint - A formal complaint should be submitted in writing utilizing NTC e-mail. NTC e-mail is utilized as the official method of correspondence. The formal complaint should be directed to the Radiography Program Director with the subject heading "Formal Complaint". This formal complaint e-mail should include a written narrative of concern, date of conversation with faculty member and outcomes to the program director. Within seven days, the program director will contact the student to schedule a meeting to review complaint and reach agreeable resolution. If there is no resolution at this point, the Associate Dean of Health or the Dean of Health may be contacted by either program director or student, to assist in the resolution of the complaint. The program director will forward initial documentation from the student and additional documentation from program director/student meeting to NTC Health leadership. The Dean of Health or Associate Dean of Health will respond to the student within seven days to schedule a review. Within fourteen days following the review, the student can expect final resolution from Health Leadership via NTC e-mail.

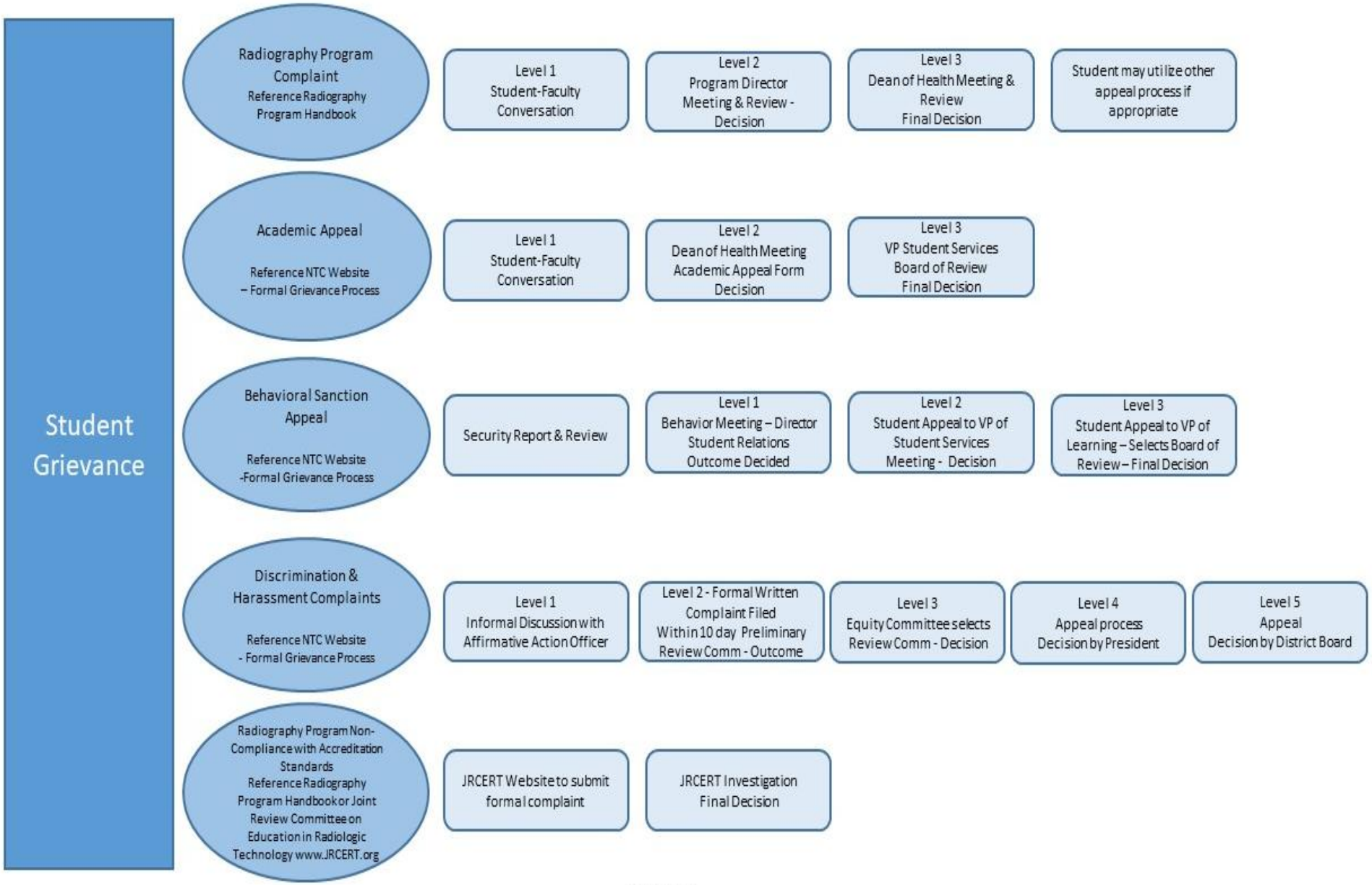
Should the complaint involve disciplinary action, or NTC Student Code of Conduct violations the student may follow NTC Due Process Procedures. NTC Student Code of Conduct available at www.ntc.edu

Discrimination and Harassment Complaints

Because discrimination and harassment, a form of discrimination, are illegal practices, and because these actions can cause serious harm to the productivity, efficiency, and stability of all activities taking place at, or sponsored by, Northcentral Technical College, the District will take specific steps to investigate and eliminate discrimination and harassment. Complaints may be reported either formally or informally.

Discrimination shall mean any difference in treatment in any service, program, course, or facility of the Northcentral Technical College District because of the person's political affiliation, age, race, creed, religion, color, handicap (disability), marital status, parental status, sex, national origin, ancestry, sexual orientation, pregnancy, arrest record, conviction record, services in the armed forces, genetic testing, or use or non-use of lawful products off the District premises during non-working or non-class hours.

Students should go http://www.ntc.edu/current-students/guidelines-procedures to read the full policy and reporting steps.


Student Grievance
Radiography Program Complaint
Reference Radiography Program Handbook
Level 1 Student-Faculty Conversation
Level 2 Program Director Meeting & Review - Decision
Level 3 Dean of Health Meeting & Review Final Decision
Student may utilize other appeal process if appropriate
Academic Appeal
Reference NTC Website – Formal Grievance Process
Level 1 Student-Faculty Conversation
Level 2 Dean of Health Meeting Academic Appeal Form Decision
Level 3 VP Student Services Board of Review Final Decision
Behavioral Sanction Appeal
Reference NTC Website -Formal Grievance Process
Security Report & Review
Level 1 Behavior Meeting – Director Student Relations Outcome Decided
Level 2 Student Appeal to VP of Student Services Meeting - Decision
Level 3 Student Appeal to VP of Learning – Selects Board of Review – Final Decision
Discrimination & Harassment Complaints
Reference NTC Website - Formal Grievance Process
Level 1 Informal Discussion with Affirmative Action Officer
Level 2 - Formal Written Complaint Filed Within 10 day Preliminary Review Comm - Outcome
Level 3 Equity Committee selects Review Comm - Decision
Level 4 Appeal process Decision by President
Level 5 Appeal Decision by District Board
Radiography Program Non-Compliance with Accreditation Standards Reference Radiography Program Handbook or Joint Review Committee on Education in Radiologic Technology www.JRCERT.org
JRCERT Website to submit formal complaint
JRCERT Investigation Final Decision

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Radiography Lab Procedures and Guidelines

Proper lab attire

- Anyone performing radiographic experiments using x-rays and those present during these exposures must wear their assigned radiation badge in the lab.
- Student and faculty without such badges will not be allowed to participate in experiments or demonstrations. Make-up lab sessions are at the instructor's discretion.
- Students are encouraged to wear a warm-up scrub jacket, lab coat or smock if the potential for soiling exists. EX-processor experiments, x-ray room/C-arm equipment manipulation. NTC nor its faculty/employees shall be responsible for the dirtying or destruction of garments worn during lab activities.

Energized Radiography (X-ray) room safety and protocols

- Students are prohibited from making radiographic exposures without radiography faculty supervision. Faculty supervision is defined as a radiography faculty member is within the confines of the lab and is aware of the x-ray exposures being made beforehand.
- All students and faculty will remain outside the x-ray room (back by the control panel) during an exposure.
- During fluoroscopic demonstrations/experiments, all faculty and students in the room must wear their assigned radiation badge at the collar of a lead apron worn appropriately.
- No live animals (this includes humans) shall be x-rayed for any lab experiments or demonstrations.
- Items to be x-rayed must be approved by radiography program faculty prior to imaging.
- All equipment in the energized lab shall be handled with care. Initial instruction on the x-ray table, tube & control panel must be given to the student by program faculty prior to equipment manipulation.
- As per radiation safety measures all doors to the energized room must be closed prior to x-ray exposures.

Darkroom safety and protocols

- Only faculty is allowed to turn on and shut off the film processor.
- Before opening film bin, always close the darkroom door tightly. Leave the door open when finished. If the door is closed, always knock and wait before opening the door.
- When running films or filling cassette with film, the white light must be off and the red safelight turned on.
- When refilling cassettes with film, always close the film bin after each film is removed from it. Do not leave bin open while doing other darkroom activities.
- Always re-cover all boxes within the film bin with their proper cardboard cover when done filling cassette(s).

C-arm and X-ray Portable use

- The C-arm and/or the x-ray portable cannot be operated without supervision (see section B for supervision definition).
- All students and faculty present during C-arm exposures must be wearing a radiation badge at the neck over a lead apron worn appropriately.
- No live animals (this includes humans) will be imaged using the C-arm.
- Items for potential flouroscopy will be approved by program faculty prior to imaging.
- All C-arm equipment and that equipment in the surgical suites will be handled with care and prior instruction on the C-arm shall be done before any manipulation is done.

Computerized Radiography (CR) and Digital Radiography (DR) Equipment Guidelines

- CR & DR equipment shall be handled with care and prior instruction by faculty is required before its use.
- Any digital information added into the PACS system must be approved prior to input.
- **Extreme** care should be utilized with the digital detector plates. Please notify instructor immediately if a detector is dropped.

General safety guidelines

- When working with chemicals in the lab, disposable gloves must be worn. Hand washing after glove use is also required.
- All energized radiographic equipment is key-protected. Keys are accessible to program faculty only.
- MSDS sheets are accessible in the darkroom on various chemistry used in the processor and should remain there.
- Any spills must be reported to radiography faculty and cleaned up according to manufacturer specs (see MSDS).
- Eye wash station shall be used when any chemicals get into the eyes. The Eye wash station is located on the darkroom sink. Any other chemical contaminations see MSDS sheets for guidelines.
- If a fire occurs refer to the RACE acronym:
  i. *R Rescue-remove all people from area of harm*
  ii. *A Alert- pull wall plug and call number next to plug*
  iii. *C Contain-close doors to lessen the spread*
  iv. *E Extinguish-see PASS acronym for extinguisher use (P-pull A-aim S-Squeeze S-sweep)*
- Nearest fire alarm pulls are located near the main stairway to the lobby, and near the back hallway exit. Fire extinguishers are located outside the darkroom door, and in the classroom near the control panel.
- First aid kit is located in the Radiography classroom (HSC 3031) near the sink.
- Incidences of fire, chemical contamination must be written up in an incident report given to radiography faculty.
- Any equipment plugged in prior to use must be unplugged after use. Pull cords at the plug, not the cord. Any loose/exposed wires must be reported to faculty. Do not attempt to repair it. Any equipment malfunctions must be reported to faculty.
- If lifting heavy objects in the lab areas, please observe correct body mechanics.
- For liability reasons, please do not bring family members into the lab area when experiments/demonstrations are in session.
- Food or drink is not allowed in the lab areas.
- NTC Center of Health Science building safety training will be done regarding fire, tornado and active shooter training during lab the first week of fall classes. A video is available for make-up or refresher in Canvas.

This is a general guide only. Specific procedures will be outlined by radiography program faculty during scheduled lab times.

Student negligence of any outlined procedures and guidelines will be dealt with according to the severity of the incident. Actions taken could include (but are not limited to):

- Discipline in the form of grade point deductions
- Incident report filed with the radiography program, building maintenance staff, and/or student health services.

Clinical Policies and Procedures

Clinical Orientation

The health clinical coordinator will contact each new student prior to the start of the fall semester to let them know their assigned clinical site. The letter will have additional clinical site requirements for the student to complete. Due to federal and state health care worker guidelines, a formal student orientation is required **prior** to the student starting clinical classes. Portions of this orientation are done on-campus and some via the clinical facility. This may include OSHA required safety training and hospital specific requirements. All orientation must be successfully completed one week prior to the first clinical assignment. Clinical affiliates can deny students access to clinical classes if orientation is not completed.

ViewPoint Screening

Student health records and background checks are managed through Viewpointscreening.com . This system provides comprehensive background checks and accurate management of health records. Viewpoint provides security of student files, real-time access for Radiography Program faculty & Health coordinators plus lifetime, 24/7 access for the student. This record management tool allows students to upload health records, transcripts, certifications and other documents to manage student background for the duration of their career.

There is a one-time cost of approximately $70 which each student will be responsible for paying directly to ViewPoint. They have payment plans available. Students will establish their accounts the summer prior to program entry. Required documents are scanned and uploaded to the site.

Students sign a release form giving ViewPoint permission to share the information with NTC's health programs. Northcentral Technical College (NTC) School of Health students need to complete health program requirements listed below in order to be placed at a clinical site. As part of the placement process NTC may need to send clinical requirement documentation or information to the clinical site if requested. By uploading the information to ViewPoint or giving it to NTC staff or faculty, you are authorizing that the information provided may be shared with clinical sites as needed.

NTC Health Program Requirements

The list below compiles the necessary documents that are required for students in health programs at NTC. These documents are required by clinical sites and need to be current and filed with Viewpoint Screening. All documents must be successfully completed prior to the first clinical assignment. Clinical affiliates can deny students access to if documentation is not completed. Students will provide:

Name, Program, NTC Student ID, Date of Birth, Phone and NTC Email Address and the contents of the table below.

MMR (Rubeola/Red Measles; Mumps; Rubella/German Measles)	You need either immunization history of 2 doses of immunizations after 1 year of age at least one month apart **or** a lab titer (lab test) showing "immunity"
Varicella (Chicken Pox)	You need either immunization history of 2 doses of immunizations after 1 year of age at least one month apart **or** a lab titer (lab test) showing "immunity"
Tuberculosis (TB) Skin Test (Must be current within the past 12 months and must be updated annually without a lapse in time)	Documentation of current TB skin test with 2 consecutive dates. This can be completed by: • Copies of 2 consecutive years of TB tests • If you have never had a TB test or it is expired you will need to complete a 2-step test at this time • If you had a positive TB test, a chest x-ray is required- or Quantiferon Gold blood TB test
Hepatitis B Vaccination Series (this is a series of 3 vaccines and is optional)	Students need to complete the Hepatitis Declination form if they choose not to get the vaccines. If students receive the vaccines dates should be provided. When completed a titer should be obtained indicated "immune' or "reactive". If students complete the series but do not the titer, a Declination form must still be signed with the item checked "prior vaccines"
Adult Tetanus, Diphtheria and Adult Pertussis Vaccine (T-dap)	One adult T-dap after the age of 11
Seasonal flu vaccine (anyone in clinical settings between October 1st and March 31st)	The flu vaccine needs to be completed in October **or** an Influenza Declination Form must be completed. If declined, students must comply with agency policy related to protective devices while in the clinical setting.
Covid 19	Immunization (s) optional
CPR (Health Care Provider)	Completed prior to start of your program and must stay current through entire program.
Latex Allergy Questionnaire	Complete and return to ViewPoint

Functional Ability signature form	Review the Functional Ability document regarding requirements for your program and sign/return the form in ViewPoint
Background Information Disclosure (BID) Form	Complete and return. The information provided here will be used to complete the Wisconsin Caregiver Background Check.
Student Contact Information	Complete and return
New Student Orientation (NSO)	Complete and return verification of participation form that day

Wisconsin Caregiver Law & Background Information Disclosure (BID)

Wisconsin Caregivers Law requires criminal background checks on all healthcare workers. These are completed as part of the Certified Background admission package in viewpointscreening.com. There are no additional fees for criminal background check. WI State law DHS 12, prohibits individuals with certain offenses from working as caregivers. State law requires persons providing hands on care to complete a BID or Background Disclosure Form (F-82064, Chapters 48.685 and 50.065 of Wisconsin State Statues). Failure to provide honest disclosure of past offenses and current charges can result in a $1000 fine and your denial of access to participation in the clinical portion of the course. Additional information is located at the Wisconsin Department of Health and Family Services web site
https://www.dhs.wisconsin.gov/misconduct/backgroundchecks.htm

If an applicant has ever been convicted of misdemeanor charges, a felony offense or military court martial, it is disclosed with the background check. Background check information is considered public record and will be shared with the clinical sites (Chapter 2.3.0). You may be required to bring in documentation concerning any offense found on your record. The clinical site will decide if any convictions or charges are substantially related to the duties performed by a student caregiver (Chapter 2.1.3) and by law have the right to refuse admittance to their facility. They may request that additional information be provided. Failure to comply honestly and promptly with all these requirements may result in a student being dropped from a course. Radiography faculty will work to place student at an alternate clinical site, but final decision lies with clinical agencies.

NTC will make every effort to inform students that have charges on their background check that it may hinder their opportunity to attend clinical sites and/or obtain licensure/credentials in their designated field. NTC will take the following steps to inform students about the background check policy:

1. The Learning Coordinator presents information to all students at New Program Orientation on Background Information Disclosures (BID) and Background check requirements for health students.
2. Students are provided the BID and sign a Background Check Understanding document prior to clinical placement. The document outlines the procedure of running a background check on the student and that any findings are sent to the clinical site for approval.
3. Background Information Disclosure (BID) forms will be filled out by the students **each** semester and submitted to Viewpoint screening. Failure to provide honest information on the BID is a felony and can result in denial of clinical experience by the health care agency and/or dismissal from the program**. If you have new charges against you during the course of your training, you must fully disclose those within one business day to your instructor** ((DHS 12.07, 1). Information will be shared with assigned clinical site. Failure to inform and/or serious charges may result in dismissal from the program.
4. If any charges appear on the background check, the background check is sent to the clinical agency. Students are notified that the clinical agency reads and approves all student background information. NTC is not deciding who attends clinical based on background; that decision is up to the clinical agency as NTC students are guests in their facility and have their own quality oversight agencies to report to.
5. If the student is denied based on findings/charges, the agency notifies the Learning Coordinator/Clinical Coordinator who notifies the student. If there is a secondary site to choose from, the Learning

Coordinator/Clinical Coordinator will attempt one more site for placement. If the student cannot be placed or there is not a secondary site to meet those competencies, the student will need to either drop the course or receive a "F" grade.

6. The student may elect to meet with NTC College advising specialists for alternate career choice.

Radiography students may also see **Certification/Licensure** section of the American Registry of Radiologic Technologists - ARRT website www.arrt.org and complete an "Ethics Review Pre-Application Packet" for precertification by the professional agency prior to program registration. This is strongly recommended as it is possible to complete an educational program and still be barred from the profession due to the ethics standards of the certification body.

The state of Wisconsin requires that Radiographers be licensed. They will complete background checks and may deny a Radiographers License to practice in the state. Additional information can be found at the State of Wisconsin Department of Safety and Professional Services. http://dsps.wi.gov/Home

Clinical Affiliations

Northcentral Technical College works with our community partners to provide the highest quality education to student radiographers. Facilities support the program by allowing students to work alongside their Imaging Department staff while providing patient care. Students are expected to follow the policies and procedures of the clinical facility.

The NTC Radiography program has affiliation partnerships with the following medical facilities:

Aspirus Clinics – Plover, Wausau & Weston

Aspirus Langlade Hospital - Antigo

Aspirus Medford Hospital - Medford

Aspirus Merrill Hospital - Merrill

Aspirus Riverview Hospital - Wisconsin Rapids

Aspirus Stevens Point Hospital - Stevens Point

Aspirus The Doctor's Clinic - Wisconsin Rapids

Aspirus Wausau Hospital - Wausau

Marshfield Medical Center - Weston

Marshfield Clinic Wausau Center

Marshfield Medical Main campus- Marshfield

Marshfield Clinic River Region- Stevens Point

Bone and Joint Clinic-Rib Mountain

Site placement

Students are assigned a primary clinical site where the majority of clinical for the two years occurs. If placed at a smaller site, some assignments will be at a larger facility to experience a full range of Radiology services. Students must be able to provide transportation to and from clinical sites and the college main campus. Student requests for a specific clinical site will be taken into consideration. However, the health clinical coordinator and/or program clinical coordinator will make the final decision based on geographical spacing of all radiography students.

If a change in enrollment takes place that opens a spot at another clinical site, a student may request to be moved for extenuating circumstances. This will only be allowed to occur during the first 2 weeks of semester one or if a site requests a replacement student due to an enrollment change. After this, changes will not be allowed as these strains clinical affiliation relationships.

Clinical Attendance

Radiography students will be required to attend all clinical assignments as scheduled by the clinical coordinator. Students utilize time clocks to check in when they arrive for each clinical assignment, and to check out when they finish each session. Completed cards if utilized should be returned to the clinical coordinator.

Students are expected to report if they will be absent or tardy due to unavoidable circumstances.
The student must call the site clinical instructor, or in their absence, the lead technologist, before the shift is to begin at their assigned clinical site. A message should also be left on the voice mail of the clinical coordinator. Failure to do so will result in grade point loss for the radiography clinical course.

Habitual tardiness and absenteeism (in excess of three per semester) may result in a reduction of the final grade for that clinical course and possible course failure. Students are responsible for scheduling missed assignments with the clinical coordinator prior to clinical return. Students must complete all assigned hours for the course. Each hour short will result in loss of up to 8% of the clinical course grade. In excess of 8 hours short constitutes course failure.

Schedule Changes

Prior to the start of the semester the clinical coordinator allows an opportunity to reschedule some shifts/rotations to accommodate student requests. All schedule changes are at the discretion of the clinical coordinator. If students are aware of scheduling conflicts throughout the semester, they should contact the clinical coordinator to attempt to alter schedules. All requests should be submitted a minimum of 16 hours prior to scheduled assignment. Faculty reserve the right to deny any schedule changes. Students will not be allowed to alter course schedules for early release of semester clinical assignments. Clinical days range from 4 – 8 hour shifts. Scheduling greater than eight-hour shifts is discouraged and changes or make-up hours will not be allowed in excess of a ten-hour assignment.

At no time do students "replace" or substitute for staff when scheduled for clinical education courses.

The handbook signature page at the end of this handbook verifies that if you elect to make changes in your clinical schedule, you may voluntarily exceed 40 hours program involvement per week.

Student Rotations

Radiography Clinical courses are designed to match the theory presented in the didactic radiography courses. Students are assigned to clinical rotations according to a master plan based on area of concentration for the semester, educational value of the assignment, and to assure appropriate student/technologist and student/instructor supervision levels. The clinical assignments/rotations per semester is an attachment to this handbook. The student will experience day, evening and Saturday assignments. Options to explore radiography related specialty areas occur throughout the six clinical courses.

Student Liability Insurance

Students registered and participating in a clinical course at the clinical site are covered by NTC's professional liability insurance policy as identified in affiliate agreements with each clinical site. If there is an incident requiring a claim submission, faculty will assist students with the help of student life.

Clinical Rotations Schedule

526-168 Fall 1st Yr **(180 hours)** **Clinical-1-*2 DE credits*** **Avg. 2- 8 hour days /week for 12 weeks**	***526-192 Spring 1st Yr*** **(180-hours)** **Clinical-2-*2 DE credits*** **2 - 8 hour days/week**	***526-193 Summer 1*** **(180 hours)** **Clinical 3-2 *DE credits*** **3- 8 hour days/week**	***526-199 Fall 2nd Yr*** **(360 hours)** **Clinical-4-*4 DE credits*** **3- 8 hour days/week**	***526-190 Spring 2nd Yr*** **(360 hours)** **Clinical 5- *4 DE credits*** **3 - 8 hour days/week**	***526-198 Summer 2*** **(90 hours)** **Clinical 6-*1 DE credit*** **2 - 8 hour days/week**
.5 Orientation .5 Office & File Room 2 Days Transport 4 General 3 Chest/General 4 Days Fluoro 3 Days Portable 3 Days PM 2 Saturdays	3 Fluoro Weeks 3 PM Weeks 2 OR At Your Site 4 General Weeks 2 Portable Weeks 2 Saturdays	3 Day OR- At Your Site 6 Days General 3 Days PM 5 Days Fluoro 4 Days Portable 1 Saturday	1 Option Week 2 PM Weeks 1 CT Week 1 MRI Week 2 OR Weeks 3 General Weeks 2 Portable Weeks 2 Fluoro Weeks 2 Saturdays	2 Option Weeks 2 OR Weeks 2 PM Weeks 2 Fluoro Weeks 3 General Weeks 1 Portable Week 1Angio/Cath Lab Week 2 Saturdays	2 Days Option 2 Days 11-7 Nights 2 Days PM 2 Days OR or general 2 Days CT 1 Saturday
Tuesday or Thursday	Tuesday & Thursday	Monday - Friday	Monday, Wednesday, Friday	Monday, Wednesday, Friday	Monday - Friday

Student Clinical Responsibilities

In order to actively participate, the student must be prepared for each assigned clinical day. If inadequately prepared, the student may be dismissed from clinical and the rotation will be reassigned. Models Integrity percentage points will be deducted. Students are expected to:

1. Complete and maintain clinical facility orientation/clearance and follow facility policies and procedures.
2. Provide transportation to and from assigned clinical facility.
3. Complete and maintain NTC Health Program Requirements to include required immunizations, CPR, Criminal Background Checks in ViewPoint (See NTC Health Program Requirements)
4. Report to clinical on time in the morning, after lunch, and from breaks.
5. Check in with their supervising technologist before leaving assigned clinical area.
6. Actively participate in all cases in their assigned area.
7. Act in a professional and courteous manner to patients, staff, and coworkers as a representative of the clinical site.
8. Provide patient care at their level of competence.
9. Follow directions as given by their supervising technologist.
10. Leave cell phones, computers, Ipads, etc in the locker or in their coats/bags. Check it during breaks.
11. Have name badge, radiation monitors, Pb markers and pocket notebooks available for each assignment.
12. Wear clean, professional attire following site dress codes.
13. Review clinical syllabus objectives, assignments and deadlines to complete assessments timely.
14. Record cases involved with in the Case Record Book. Identify supervising Radiographer for each examination, student level of participation and if the examination had repeated images.
15. Student conduct towards Clinical Preceptors:
    a. Students should not expect the preceptors undivided attention all the time. Understand that patients and physicians come first.
    b. Students should not expect that every quiz/competency they do will be 100%. Clinical Preceptors need to evaluate fairly and honestly- this may mean failing an exam.
    c. Students cannot expect preceptors to be their advocate when they blatantly do something inappropriate. Students should understand disciplinary action may arise.

Clinical Behaviors

Ten percent of each clinical course grade is based on the ability of the student to exhibit responsible work habits that are expected of health care professionals. Each student starts with ten Integrity points. Points are lost when behaviors occur that would not be acceptable in our field. The following are reasons for a loss of Integrity points. Excessive loss of points will result in remediation and/or failure of the clinical course.

1. Unexcused or unreported absence: If absent or tardy, the student must call the clinical instructor or staff technologist before their assignment begins.
2. Altering clinical education schedules without prior approval. Schedule changes must be made at least 18 hours in advance otherwise it would be considered an absence.
3. Failure to reschedule makeup time with clinical coordinator in a timely fashion before the end of the semester. If absent, the student should contact the clinical coordinator for a make-up plan and changes can be made on master schedule in Canvas. Students must complete all assigned hours for the course. Each hour short will result in loss of responsibility points up to 8. In excess of 8 hours short constitutes course failure.
4. Tardiness or excessive absenteeism (greater than 3 per semester): Clocking in late/out early.
5. Failure to meet deadlines: All deadlines for checklists, competency evaluations, and case record book checks are specified in course syllabus located on the Canvas website for the course.
6. Any noncompliance with clinical responsibilities listed above.
    - Example: Not in assigned area, noncompliance with dress code; smoking policies, expired CPR, TB or not updating Certified Background Records

7. Leaving clinical site during scheduled session without approval.
8. Altering student's own or another student's time card in any way, clocking in or out for another student or failure to turn in time cards timely and prior to the end of the semester.
9. Forgetting to change radiation monitoring badges when new ones become available- or losing the radiation badge.
10. Taking over 2 attempts to complete competencies and checklists will lose integrity points as well as require a remediation plan with the clinical coordinator.
11. Failure to schedule option rotations timely. Option rotations must be scheduled at least one week ahead of time and 1 month ahead if going to another site. Permission must be obtained from individual department heads. Option checklists and Case study must be completed if applicable.
12. Failure to be adequately prepared for clinical experience: Missing markers, name badges, radiation monitors, pocket notebooks, etc.

Clinical Conduct

Clinical behavior must reflect the student's level of education and training.

1. Any behavior that is psychologically, emotionally, or physically harmful—or potentially harmful if not prevented—is considered unacceptable. Such behavior is not expected from any student at a comparable stage of education and may result in disciplinary action
2. Students are subject to the same disciplinary standards as employees of the clinical affiliate. Clinical sites reserve the contractual right to deny access to any student for specified reasons, which may affect the student's ability to continue in the program.
3. Consequences of Unsafe or Unprofessional Behavior:
    - Immediate removal from the clinical course with a failing grade
    - Denial of future access to the clinical site
    - Dismissal from the program without the option for re-entry
4. The following are examples of behaviors that may result in disciplinary action or dismissal. This list is not exhaustive:
    - Violation of confidentiality procedures (e.g., HIPAA violations)
    - Abusive language or actions
    - Falsification of records
    - Gross negligence in patient care
    - Use of tobacco, drugs, or alcohol during clinical assignments

Clinical Dress Policy

The personal appearance and demeanor of Radiography students reflect both the college and the assigned clinical site. Patients have expectations of a professional. The uniform dress code is one adopted by NTC for use in its clinical affiliations.

1. *Personal Hygiene*: Personal hygiene should be adequate so as not to be offensive to patients or fellow workers. Students shall be fit for clinical education through good health habits, proper meals, sufficient rest, and cleanliness. Frequent hand washing is essential. Cologne or perfumed lotions and sprays are discouraged. Fingernails should be clean and kept to less than ¼" in length with no dark nail polish, artificial or gel extensions allowed. Hair must be clean, combed and controlled and secured if longer than shoulder length. Facial hair neatly groomed.

2. *Gum Chewing, Eating, and Drinking:* Gum chewing, eating, and drinking is not permitted while in view of patients and should be limited to employee break rooms.

3. *Uniform*: Walking style leather athletic or uniform shoes, clean and in good repair with socks. All sites require scrub uniforms. Students may select their preference of scrub designs although solid pants and a solid or print scrub shirt are usually acceptable. Students may elect to purchase a lab coat to wear in departments that are cold. Site logo wear is allowed (EX- Aspirus or Marshfield Clinic tops/jackets). No athletic wear with large logos. Zip-up or ½ zip jackets with small pocket logo is acceptable.

4. *Adornments:* Clinical sites reserve the right to request that tattoos be covered during clinical assignments. Jewelry which does not pose a hazard for the employee or patient may be worn. Examples of dangerous jewelry include dangling earrings, earrings larger than a nickel, loose necklaces or bracelets, large or sharp rings. Each clinical site reserves the right to request that any jewelry be removed or covered during clinical assignments. Most clinical sites

require that piercings, other than ears, must be covered or removed. Students may be asked to remove facial piercings at their assigned clinical site.

5. Surgical gowns, gloves, caps, masks, and booties to be worn over shoes will be provided by the hospital when required for surgical assignment, but not provided for rotations outside of the surgical areas. Site provided attire must not be worn outside the clinical site.
6. Lead aprons, thyroid collars and gloves are provided by the hospital and shall be worn whenever the student is in an examination when exposure may occur.
7. Students are required to wear the radiation dosimeter and ID badge at all times while in a clinical assignment. All students are required to have one complete set of lead R & L markers. These are available at the NTC bookstore.

Clinical sites may ask a student to leave if not appropriately dressed. Missed clinical assignments will need to be made up.

Health Insurance Portability and Accountability Act of 1996 (HIPAA)

HIPAA requires confidentiality of all protected health information during the clinical education experience. Information obtained in the form of verbal, written, pictorial or electronic means are considered protected health information. Students who require access to patient health information as part of their clinical experience will protect the information in accordance with the policies and procedures of the facility and NTC. Students will not disclose or request protected health information in a manner that violates policies and procedures of NTC, the clinical affiliate, or state and federal law.

1. Students who violate patient confidentiality will result in disciplinary actions and may be subjected to immediate dismissal from the program depending on the violation severity.
2. HIPAA involves both civil and criminal penalties for violations. Prison time and fines are possible for violations.
3. Based on individual health care facility requirements, student may have to complete HIPAA training and sign confidentiality agreements for their clinical sites.

Clinical sites have the right to revoke all clinical privileges for any HIPAA violation.

Cell Phones and other Personal Electronic devices

Students are not permitted to use cell phones for personal purposes during clinical hours, except in the case of an emergency or with prior staff/faculty approval. Computers or tablets may be utilized during down times to work on coursework AFTER 5 PM and only with staff permission. Inappropriate use of electronic devices in the clinical setting will result in loss of integrity points in your clinical courses.

Social Media Policy

The information you post and share online is NOT confidential. Assume anything you post or are tagged in is visible to anyone and may affect your professional reputation for years to come.
The Radiography Program does not monitor personal social media accounts, but any reported questionable posts will be reviewed and addressed as needed. As an NTC Radiography student, you represent the program even on personal accounts. Remember—no social media site is truly private. Posts can be copied, shared, saved, or retrieved long after deletion.

Faculty, staff, and students may not take personal photos, videos, or recordings in patient care areas. Even content believed to be “de-identified” may still reveal patient information and violate HIPAA, and therefore is not permitted.

Students should not use social media to connect with staff or faculty while enrolled as a student at NTC.

Breaks and Lunches

All students assigned to five hours or more clinical will have a 1/2 hour lunch period. Fifteen-minute breaks per four-hour assignments occur as workload permits. Students should follow meal and break procedures of the assigned clinical site. Students who elect to leave the medical facility during meals must punch out on their time card. In rare instances due to heavy caseload, when a student elects to miss a meal to assist clinical staff, the student is encouraged to take a meal at a later time, or if not feasible they will be given clinical credit. The supervising radiographer should sign time card to verify occurrence.

Student Health and Safety Policies

Infection Control

When illness exists, students are responsible for reporting illness to the clinical instructor or faculty member and use sound judgment when attending clinical assignments. Rashes and infections may need physician evaluation to be allowed in clinical assignments. Communicable diseases must be reported and will be referred to the infection control nurse at each clinical site. The students may be required to take a leave of absence, be reassigned to a non-patient care area, or may be referred to a primary care physician. Examples of communicable disease include but are not limited to influenza, conjunctivitis, Covid and strep throat. Students will need to provide physician approval or follow site policy to return to the clinical class. In Covid cases please refer to the current NTC Covid-19 Guidelines for Students located in Canvas.

Universal Body Substance Precautions

Precautions must be followed whenever there is a possibility of exposure to blood/body fluids:

a. Wash hands before and after patient contact. Hands and other skin surfaces must be washed thoroughly and immediately if accidentally contaminated with blood or body fluids. Wash hands after glove removal.
b. Wear gloves for most procedures and always when in contact with blood, body substances, or contaminated surfaces is anticipated.
c. Generic face masks may be required for some cases such as OR and Interventional work. Students may not participate in cases requiring N95 fitted masks at this time.
d. Gowns will be worn if it is possible that clothing will be soiled from splattering of blood or body substances.
e. Masks and protective goggles will be worn to protect eyes and mouth from splattering, aerosolization, or more extensive contact with blood or bloody secretions during certain dental and surgical procedures, wound irrigations, suctioning, intubation, post-mortem examination, and so forth.
f. Treat all blood and body tissue specimens as biohazardous.
   (1) Wear gloves to handle the specimen and place specimen container in a plastic bag for lab transport.
g. Follow department protocol to clean spills of body substances from surfaces ASAP.
h. Use extraordinary caution in handling and disposal of sharps to prevent accidental cuts and punctures. Discard intact into a rigid, burnable container immediately after use. Do not replace needle cover over needle. Be familiar with needleless system practices.
i. Report all needle stick or puncture accidents, mucosal splashes, or contamination of open wounds with blood or bloody body substances immediately to your department director or supervisor. Employee health will evaluate and take appropriate action on each case. Faculty may fill out a Maxient report form if liability insurance or health costs are incurred.

Health Division Latex Allergy/Sensitivity Policy Statement

Latex products are common in the medical environment. Allergic responses to latex can range from irritation and allergic contact dermatitis to the possibility of life-threatening anaphylactic shock. Guidelines have been established at Northcentral Technical College to provide information to potential allied health students and staff who are sensitive to latex.
Latex free environments are seldom available in either clinical or academic settings. Therefore, an individual with a latex allergy/sensitivity wearing alternative vinyl or nitrile gloves is still exposed to latex residue of others working in the area or to latex present in the equipment, models and mannequins. Although latex gloves are the most prominent source of latex allergen in the healthcare setting, many other products contain latex including, but not limited to:

- Medical items: ace bandages, Band-Aids, blood pressure equipment and stethoscopes, pads on crutches, catheters, tourniquets, teeth protectors, wheelchair cushions and tires, IV equipment, and multiple types of tubing
- Non-medical items: computer mouse pads; erasers; button pads on phones; calculators and remote controls; eyepieces on cameras, binoculars and microscopes; chewing gum; lottery tickets; disposable diapers; rubber bands
- Standard for Surveillance/Care
  a. Any student who has or develops symptoms consistent with latex allergy/sensitivity is advised to consult a qualified allergist for evaluation prior to enrollment in the Nursing or Allied Health programs. All such evaluations are at the student's expense. If it is determined that a student suffers from a latex sensitivity/allergy and the student desires an academic adjustment, including auxiliary aids/service, or

reasonable accommodation due to this condition, the student must contact the NTC Center for Access and Accommodation.

b. As with all matters related to one's health, the utmost precautions should be taken by the student to reduce the risk of exposure and allergic reactions. This may include the carrying of an epi-pen by the individual or other precautions as advised by the student's health care provider. It is the responsibility of the student with a latex sensitivity to understand and acknowledge the risks association with continued exposure to latex during a clinical education and healthcare career, even when reasonable accommodations are made and to regularly consult with his/her health care provider.

- Standard for Minimizing Risk
  a. In an effort to minimize the presence of latex in the College's facilities, Northcentral Technical College will provide latex-free and powder-free gloves in all College lab facilities. Should a clinical site NOT provide latex-free gloves, the College will provide latex-free gloves for clinical use. Additionally, the College is taking the following steps to minimize latex in its facilities: 1) replacement of all gloves in use by faculty and students with nitrile or vinyl gloves; 2) maintaining an inventory of all products/equipment and supplies in the programs that contain or could contain latex; and 3) future purchasing of latex-safe supplies and equipment whenever possible.
- Standard Latex Allergy documentation
  a. Students of all Health Programs, except Nursing Assistant, will be required to complete a Latex Allergy questionnaire and signature form on Certified Background as a part of the health requirements.

Note: As with all students in Health Division programs, a student with a latex sensitivity or allergy is required to satisfactorily complete all requirements and technical standards of the program to which they have been accepted.

Amended: July 2014 – Comprehensive review, revisions made. Improved clarity of policy by adjustments to minimization of risk language and responsibilities of the college and student. Effective: August 2014

MRI Safety in Clinical

Prior to starting clinical in the first fall, new radiography students will view a video on MRI safety in Canvas, NTC's learning management system. The student confirms watching this video by answering questions related to the video.

Students then complete an MRI questionnaire. This questionnaire is to be filled out during clinical orientation, the second week of the fall semester by all students. Any answers of yes, will be followed up on by NTC radiography faculty and MRI staff. Due to the nature of MRI, students rotating through MRI with any of the conditions mentioned on the form may not be able to go into the actual MRI room without documentation of a recent MRI scan or a negative Foreign Body Orbit x-ray image. HIPAA will be followed regards to health information- it will remain confidential

Students will be rotated through various other modalities in their 2nd year of clinical. One of these will be MRI. Prior to this rotation, students must complete an updated MRI safety record form. Should a student check yes to any of the items listed, they must follow up with program faculty. Any changes in health that would result in answering yes to any area on the MRI safety record form must be reported to program faculty. See MRI safety form towards the end of this handbook.

Revised on 1/22

Personnel Radiation Monitoring

Students in Radiography at Northcentral Technical College require radiation monitoring. Workers/students likely to receive 10% of the allowable annual dose limit are required to wear dosimeters. The Federal government has defined annual dose limits as follows:

Body part	Dose limit
Whole body	5,000 mrem
Lens of the eye	15,000 mrem
Extremities, shallow, any single organ	50,000 mrem
Declared pregnant worker (9 months)	500 mrem

Students are required to wear radiation monitoring badges at all times during clinical and when required for lab procedures in the NTC radiography suite. Dosimeters are ordered through an outside company; Landauer www.landauer.com. Dosimeter companies require your name, ID number (NTC student ID is used), birthdate and gender at birth. NTC will share that data with Landauer and Aspirus Wausau Hospital Physicists to assure your Radiation Safety. Landauer Data Protection Statement is available for review in Canvas. Dosimeter cost is not incurred by the student, but by Aspirus Wausau Hospital. The Radiation Physicist of Aspirus Hospital will also confer with program faculty when monitoring badge reports.

Dosimeters are considered part of the proper complete uniform. They should be worn in the area of the collar. When a lead apron is worn, the badge should be placed on the outside of the apron. Students who do not have their radiation monitor available for clinical class will be asked to leave clinical and missed clinical assignments will be re-assigned. Lost badges are reported immediately to program faculty for replacement.

Lead aprons, thyroid collars and gloves are provided by the hospital and on campus and shall be worn whenever the student is in an examination when exposure may occur. Students may not hold image receptors. Monitors are changed four times a year on campus with faculty when the new badge is issued. Students are expected to check their radiation exposure by signing in online. Students verify they have checked online records by recording in their case record books.

Students may NOT perform radiographic procedures on known pregnant patients, regardless of circumstances. They may assist the radiographer only. Students cannot hold patients or image receptors during procedures when other immobilization methods are the appropriate standard of care. Students are expected to utilize personal shielding during all fluoroscopy and mobile exams.

Reported exposures are reviewed by the Radiation Safety Officer to determine if an ALARA investigation level has been reached. **ALARA** or "**A**s **L**ow **A**s **R**easonably **A**chievable" means making every reasonable effort to maintain exposures to ionizing radiation as far below dose limits as practical. ALARA investigation levels are as follows:

Quarterly ALARA Investigation Levels		
Dose	**ALARA Level I**	**ALARA Level II**
Category	**(mrem)**	**(mrem)**
Deep	125	375
Lens	375	1125
Shallow	1250	3750
Extremity	1250	3750

Level I Exposure:

Occurs when a worker exceeds 10% of the Quarterly Dose Limits.

Level II Exposure:

A worker/student exceeds 30% of the allowable Quarterly Limit. A Level II Exposure will trigger an exposure investigation by the Radiation Safety Officer/Program Director to determine any contributing factors and a required re-training to limit future exposures.

Pregnancy and Radiation Protection

It is the student's right to disclose medical conditions including pregnancy. Pregnant students who are working in or frequenting any restricted areas have three options. They may voluntarily elect:

1. Not to disclose the pregnancy to Radiography Program Faculty
2. Submit written disclosure of pregnancy with estimated month and year of conception to Radiography Program
3. Submit written withdrawal (undeclare the pregnancy) to Radiography Program Faculty

All actions must be in writing. In the absence of a voluntary written disclosure, a student cannot be considered pregnant. To declare a pregnancy, the student must submit a written letter of notification to Radiography Program Director or Radiation Safety Officer (RSO). The following will apply:

1. A radiation dosimeter (fetal badge) will be provided in accordance with WI DHS regulations.
2. The fetal badge is to be worn at the waist under any protective apron for the duration of the pregnancy.
3. In addition to the normal quarterly badge, fetal badge will be exchanged monthly for the duration of the pregnancy.
4. Read Wisconsin Department of Health Services handout titled: *Radiation Exposure to Pregnant Employees*.
    a. If the pregnancy is terminated without carrying to term, written notification should be given to the Radiography Program Director or RSO.
    b. The student may choose to retract the pregnancy declaration at any time. The retraction must be in writing and must be submitted to Radiography Program Director or RSO.
    c. The lower dose limits for the embryo/fetus remain in effect until the written withdrawal is received. If the declaration is not withdrawn, the written declaration shall be considered expired one year after submission.

Once the RSO/Program Director has been informed, they will instruct the student in the biological risks associated with exposure to radiation, including procedures to minimize exposure. Aspirus Hospital physicist will be available in assigning dose estimation for her embryo/fetus if needed. See Wisconsin Department of Health Services handout: *Radiation Exposure to Pregnant Employees* or https://www.dhs.wisconsin.gov/publications/p4/p45024.pdf

The Radiography Program maintains a record of the in-service given to the pregnant student and the student has on-line access to their quarterly and accumulative radiation reports. No restricted areas in the hospitals have been identified which would be considered likely to result in a dose to the fetus exceeding 500 mrem. The Aspirus Hospital Physicist may make recommendations to the student and faculty regarding clinical education assignments to further reduce the dose.

Upon request, the Program Director and Clinical faculty may work with the student, taking into consideration her physician's advice, to develop a plan that meets her needs for program completion. The student may elect to:

1. Continue in the program without modification
2. Continue in the program with modification based on pre-co requisites of courses
3. To withdraw and return the subsequent year during the same semester.

Some plans for program completion may lengthen the program beyond two-years.

Declaration of Pregnancy

Student Name: _____

I am declaring that I am pregnant.

I believe I became pregnant in _____

(only the month and year need to be provided.)

I understand that my occupational radiation dose during my entire pregnancy will not be allowed to exceed 0.5 rem (unless that dose has already been exceeded between the time of conception and submitting this letter.) I also understand that meeting the lower dose limit may require a change clinical assignments.

_____ _____

(Student signature) *(Date)*

It is required that you:

1. Read Wisconsin Department of Health Services handout: *Radiation Exposure to Pregnant Employees* https://www.dhs.wisconsin.gov/publications/p4/p45024.pdf
2. Review your radiation exposure records with the Radiation Safety Officer and discuss any questions you may have regarding radiation exposure during pregnancy
3. Wear a fetal radiation dosimetry badge as instructed if one has been assigned to you.
4. Realize accuracy of radiation dose estimates is dependent on the prompt receipt of the individual's monitors for processing. Therefore, all badges should be returned immediately upon receipt of the new badges. Badge readings for this individual will be reviewed by faculty.

Regulatory Limits

The Wisconsin Department of Health Services (WI DHS) requires that the dose equivalent to an embryo or fetus during the entire pregnancy, due to occupational exposure of a declared pregnant woman, does not exceed 5 mSv (500 mrem) [DHS 157.23(8)].

In addition, WI DHS requires that efforts be made to avoid substantial variation above a uniform monthly exposure rate so as to satisfy this limit. To that end, the recommendation of the National Council on Radiation Protection and Measurements (NCRP) to limit the monthly exposure to no more than 0.5 mSv (50 mrem) will be followed.

Record of Attendance

Radiation Risks during Pregnancy Consultation

Participant ID	*Date of Counseling Session*	*Fetal Badge Ordered On*	*Fetal Badge Terminated On*
_____	_____	_____	_____
–	–	–	–

I certify that I have attended the above-referenced instruction and was informed of Radiation risks and practices designed to reduce fetal exposure.

_____ _____

(Student) *(Date)*

_____ _____

(RSO/PD Signature) *(Date)*

Badge Readings:

Dates	Collar	Body

Radiation Exposure to Pregnant Employees

Know your options for radiation dose limits to your embryo or fetus during pregnancy.

Radiation exposure is assumed to carry some risk

Exposure to ionizing radiation may contribute to adverse health effects, and the potential for adverse effects increases as radiation dose increases. At the 5000 millirem occupational dose limit for adults, the risk is believed to be very low.

Learn more about prenatal radiation exposure: www.nrc.gov, search 'prenatal'

Rapidly dividing embryonic or fetal cells are more sensitive to the effects of radiation exposure. The 500 millirem dose limit to the embryo or fetus of a declared pregnant worker provides an additional margin of protection.

Declaring your pregnancy

Declaring your pregnancy to your employer is completely voluntary.

- If you choose to declare your pregnancy, a lower radiation dose limit will apply to your embryo or fetus.
- You do not have to provide medical proof of pregnancy.
- If you choose not to declare your pregnancy, you and your embryo or fetus will continue to be subject to the same radiation dose limits that apply to other occupational workers.
- The lower dose limit remains in effect until you withdraw your declaration in writing. If you do not withdraw your declaration, the declaration will expire after one year.

Want to declare your pregnancy?

- In writing, provide to your employer your name, estimated month and year of conception, and the date of declaration.
- You may revoke your pregnancy declaration at any time, even if you are still pregnant.

Regulatory information

If you are likely to receive a radiation dose exceeding 100 millirem per year, your employer should provide the information in this fact sheet to you. In addition, your employer should tell you how a pregnant woman's work responsibilities may change as a result of declaring a pregnancy.

P-45024 (01/2019)

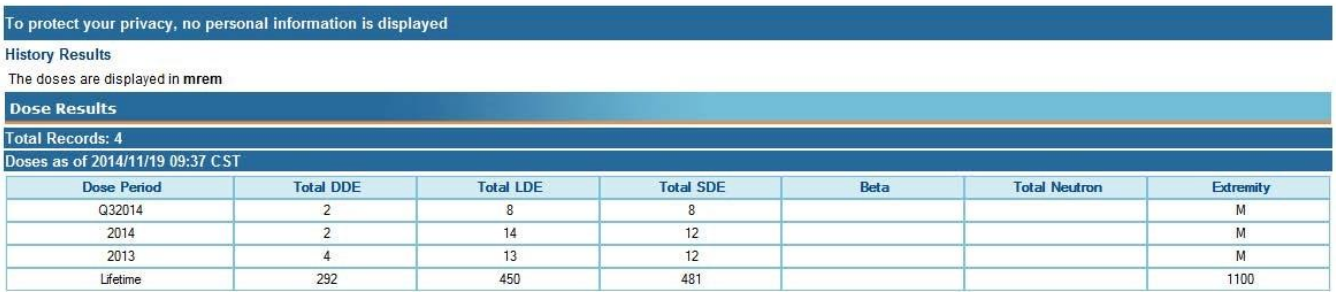
RADIATION PROTECTION SECTION
Wisconsin Department of Health Services | Division of Public Health
608-267-4797 | dhs.wisconsin.gov/radiation

To Review Your Occupational Radiation Exposure Records Online:

1. Have your current radiation monitor available.

2. Logon on to https://www.myLDR.com
- **a. Username: Aspirus**
- **b. Password: Aspirus**

3. Enter the account number and serial number of your current radiation monitor to view your Individual Dose Report. Note: There are links to a short video demonstration and a glossary of the terms used in the report at the top of the page.



To protect your privacy, no personal information is displayed

History Results

The doses are displayed in **mrem**

Dose Results

Total Records: 4

Doses as of 2014/11/19 09:37 CST

Dose Period	Total DDE	Total LDE	Total SDE	Beta	Total Neutron	Extremity
Q32014	2	8	8			M
2014	2	14	12			M
2013	4	13	12			M
Lifetime	292	450	481			1100

Detailed reports are available for your online review for approximately 2 years. The lifetime dose report includes all exposures recorded in this account from the first wear date. No personal data (name, ID) is included in the online Individual Dose Report.

If you have questions about the Individual Dose Report, or would like to discuss your occupational exposure record, please contact the Radiation Safety Officer/Program Director

PMMA Disclaimer for Pregnant Individuals

Polymethyl methacrylate (PMMA) bone cement is commonly used in medical procedures such as but not limited to vertebroplasty and joint replacements. Its fumes and components may pose potential health risks, particularly for pregnant individuals. While research on the effects of PMMA exposure during pregnancy is limited, some studies suggest that inhalation of vapors or prolonged contact with the material could have adverse health effects. Awareness of this potential risk is important, and individuals may wish to seek further information or guidance from a healthcare provider if needed.

Clinical Course Evaluation

Performance in clinical is evaluated according to the clinical course syllabus requirements located at the related Canvas website. Clinical course grades are comprised of completed competencies, checklists, daily assignments, integrity points and radiographer/clinical instructor evaluations. A formal student/instructor conference may be called by the student or instructor at any time during the clinical course to discuss progress or other issues related to clinical success.

Semester evaluations are provided by the faculty and staff at the assigned clinical area. Students must have an averaged 80% or better on these evaluations to pass the clinical course regardless of scores on competencies or checklists. All assignments and clinical hours must be completed by the final course date or student will receive a failing grade and will not progress to the next clinical course.

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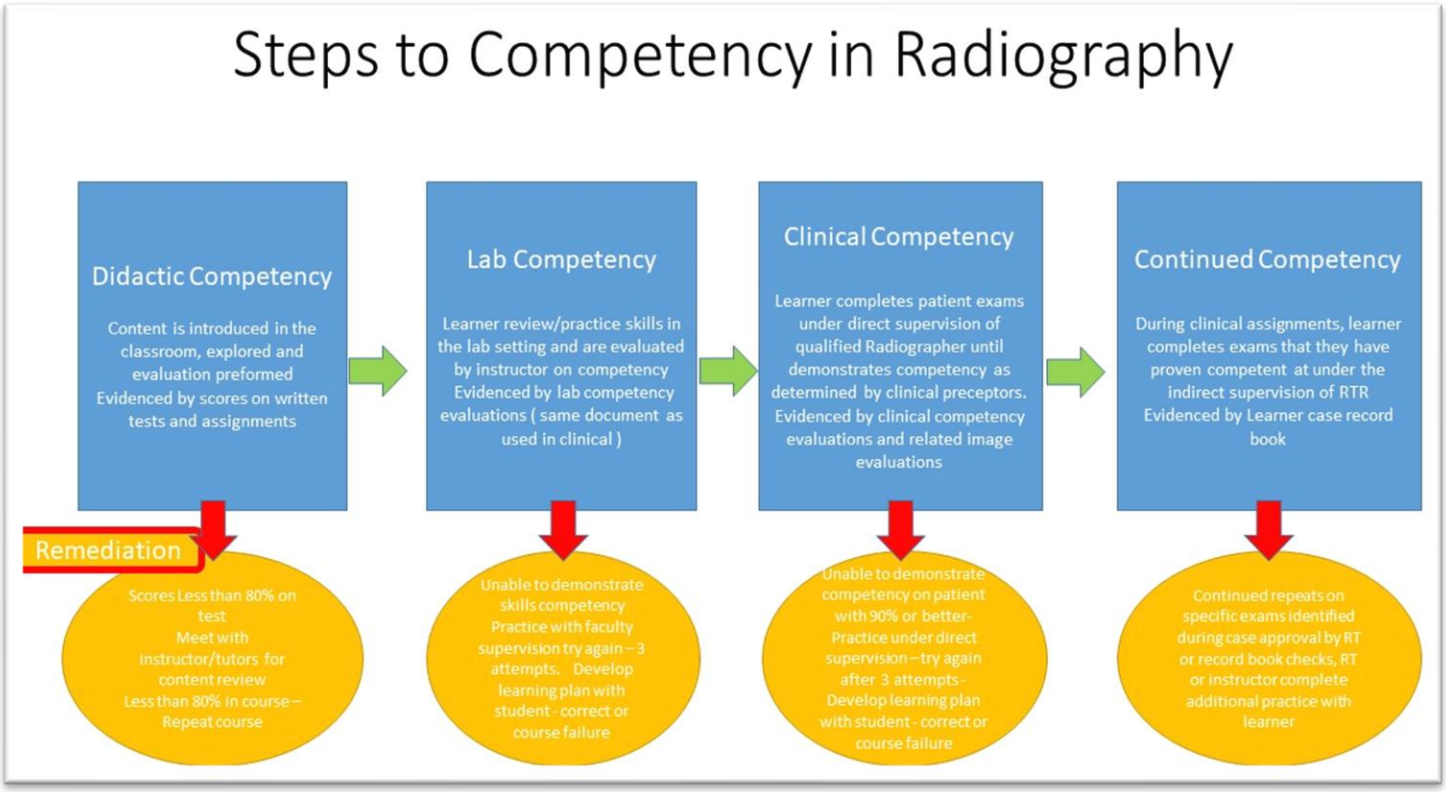
The Evaluation Process

On NTC Campus

1. The anatomy and positioning is covered in the didactic class. 526-149 or 526-191. Each student completes a written assessment on the content.



2. The student successfully completes return demonstrations on the radiographic positions in the lab section of courses 526-149 or 526-191 using the Competency Form. The student continues demonstrations until successful. See course syllabus for details.

Exams cannot be tested out on in clinical until AFTER the student has proven competency in the classroom at NTC lab.

In the Clinical Setting

1. Radiographic Exam Evaluation:

The student practices examinations under the supervision of an R.T. When the student feels ready to demonstrate competency, they work with the clinical instructor to select a patient for a radiographic procedure specified in the Course syllabus and request that the clinical instructor evaluate them as they complete the examination. The student is required to perform the examinations with a mastery level of 90% using the Competency Form. Students not meeting the 90% requirement will repeat the procedure. Taking over 2 attempts to complete competencies will lose responsibility points as well as require a remediation Learning Plan with the clinical coordinator. (See Learning Plans)

2. Image Evaluation:

   Upon completing the exam, the student makes an appointment through the Wausau Hospital NTC office or faculty site travel schedule to complete an Image evaluation of the study. NTC staff will review the radiographic properties that went into the construction of the images. See Oral Evaluation forms for content covered. Check the syllabus for each clinical course to determine how many oral image evaluations are required for each semester.

3. Each graded competency form is calculated by weighting 50% of the grade on the radiographic evaluation and 50% on the image evaluation.

Student Supervision

Faculty members visit clinical sites to meet with on-site clinical preceptors, leadership and students. Site clinical preceptors and staff radiographers supervise students on a one-to-one basis. Job descriptions for staff radiographers designate instruction and supervision responsibilities.

Direct Supervision

Defined as the technologist is in the room working with the student. The technologist **must** check all positioning and exposure factors prior to the student making an exposure. Until a student achieves and documents competency in any given procedure, all clinical assignments shall be carried out under the direct supervision of qualified radiographers. The parameters of direct supervision are:

1. A qualified radiographer reviews the order and evaluates the condition of the patient in relation to the student's knowledge. This assures that the patient's condition does not require special consideration and additional staff to complete the exam. A qualified radiographer is present during the examination, reviews and approves the images.
2. A student must be DIRECTLY supervised until they have proven competency at an exam or procedure. Once competent, they may be indirectly supervised.
3. Students must be supervised at the level of their competency and not less than indirect supervision. This means students are never left alone in the department, in surgery, or completing a portable or C-arm procedure. A technologist must be immediately available at all times.
4. Image quality should be evaluated by a registered radiographer prior to an image being passed for radiologist interpretation.

Indirect Supervision

Defined as supervision provided by a registered radiographer *immediately available* to assist students regardless of the level of student achievement. It is used in areas where a student has shown competency.

Immediately Available

Interpreted as the presence of a registered radiographer adjacent to the room or location where a radiographic procedure is being performed should the student require assistance. (This **must** be in person)

Competency

The student has completed formal classroom lecture on the procedure, successfully passed a written test, and shown proficiency in the clinical setting to the clinical preceptors. The student may now complete this exam in the with indirect supervision.

NOTE: Students may NOT perform radiographic procedures on known pregnant patients, regardless of circumstances. They may assist the radiographer only. Student cannot hold patients or image receptors during procedures when other immobilization methods are the appropriate standard of care. Unsatisfactory images shall be repeated ONLY in the presence of a qualified radiographer, regardless of the student's level of competency.

Clinical Competency Image Evaluation

Radiography Clinical Competency

Northcentral TECHNICAL COLLEGE

% w/ image evaluation office use only

Student: Evaluator:

Date: _____ Exam _____ _____Views:

(92 possible points) - Directions for completing form on reverse side.

4	3	2	1	0	n/a		Comments
						1. Evaluation of Requisition (10 points)	
			1	0	n/a	*a. Confirm patient's identity	
		2	1	0	n/a	b. Review exam requisition for accuracy	
	3	2	1	0	n/a	c. Obtain pertinent medical history	
4	3	2	1	0	n/a	d. Document required information in patient's EMR, RIS, HIS (if applicable),	
						2. Physical Facilities Readiness (13 points)	
			1	0	n/a	a. Tube placement	
		2	1	0	n/a	b. Plates/cassettes ready & in room/bucky	
	3	2	1	0	n/a	c. Panel ready prior to each exposure	
		2	1	0	n/a	d. Aprons/shields/accessory equipment ready	
		2	1	0	n/a	e. Clean/disinfect equipment & dispose of contaminated items to prep for next exam	
	3	2	1	0	n/a	f. Practice standard & environmental precautions when dealing with patients having communicable diseases – (handling sharps and body fluids)	
						3. Patient-Technologist Relationship (14 points)	
		2	1	0	n/a	*a. Assess patient condition--determine if help, equipment or exam modification is needed (immobilization devices, emergency care, casts, pathology)	
			1	0	n/a	b. Greet the patient/introduction (communicate delays and post exam instructions)	
	3	2	1	0	n/a	c. Give directions and evaluate patient's ability to understand and comply with exam	
		2	1	0	n/a	d. Provide for patient safety, comfort and modesty	
			1	0	n/a	e. Have a confident approach	
	3	2	1	0	n/a	f. Use patient transfer devices as needed & assume responsibility of medical equip.	
		2	1	0	n/a	g. Explain & confirm patient's preparation and attire (opaque articles removed)	
						4. Positioning Skills (17 points)	
			1	0	n/a	*a. Knows routine	
			1	0	n/a	b. Positions completed in good time	
4	3	2	1	0	n/a	c. Position patient to demonstrate desired anatomy using anatomical landmarks	
	3	2	1	0	n/a	d. Evaluate images for diagnostic quality for any repeats/artifacts	
4	3	2	1	0	n/a	e. Proper centering	
		2	1	0	n/a	f. Sequence of images/imaging procedures	
		2	1	0	n/a	g. Explain breathing instructions prior to making exposure	
						5. Equipment/Technique Manipulation (24 points)	
		2	1	0	n/a	a. Select equipment and accessories for exam (grid, filters, etc)	
4	3	2	1	0	n/a	b. Selected proper kV & mAs and correct for repeats (exposure indicator values)	
4	3	2	1	0	n/a	c. Utilize exam pre-set on panel, or technique chart	
		2	1	0	n/a	d. Select proper AEC if used and estimate mAs in advance	
		2	1	0	n/a	e. Proper distance, OID, focal spot and tube angle	
4	3	2	1	0	n/a	f. Restrict beam to area of interest	
4	3	2	1	0	n/a	g. Mark images properly with lead markers/annotations along with post-processing	
		2	1	0	n/a	h. Easily manipulates equipment utilizing proper body mechanics	
						6. Radiation Safety (11 points)	
			1	0	n/a	*a. Verify pregnancy and take appropriate action	
		2	1	0	n/a	b. Evaluate and use Pb shielding	
			1	0	n/a	c. Minimize staff exposure by using aprons/gloves	
			1	0	n/a	d. Prevent unnecessary persons from remaining in area	
			1	0	n/a	e. Doors closed	
4	3	2	1	0	n/a	f. Images repeated (-1 for every repeat) *All repeats need to be directly supervised- see back	
			1	0	n/a	g. Wear personnel monitoring device	
	3	**2**	**1**	**0**	**n/a**	**7. Overall Handling (3 points)**	

TOTAL POINTS=

Please check one for Short Forms/competencies

____This student demonstrates competency in this exam. ____This student needs more practice and the competency should be repeated.

Student Signature Date Evaluator Signature Date

-Backside of form

EVALUATOR: Any registered Radiographer for 2+ years can do non-graded/short form competencies

Instructions:

- A score of 90% is needed in order to pass the competency. Please forward failed forms to NTC faculty via courier or sealed envelope.
- The score of the **first** attempt will be averaged with the image evaluation component for the exam grade
- AEC's (automatic exposure control) can be used if student estimates a mAs value in advance of exposing
- 1 point is lost for each repeat. If there are no repeats, the students gets all the points here.
- Check N/A if area does not apply- remove these points from the total in these cases

Additional instructions for:

Short forms/NON-graded competency	**Long forms/Graded competency**
Use this same form and the student either passes or fails. You need not check any boxes throughout. Just place a check in the bottom area whether or not the student needs more practice.	Check boxes under each area that applies. * - starred areas must be done, otherwise a student fails the exam with a maximum score of 85%. The student must repeat on another patient.

Direct supervision:

Qualified Radiographer

- Reviews the procedure in relation to the student's achievement
- Evaluates the condition of the patient in relation to the student's knowledge
- Is physically present during the conduct of the procedure
- Reviews and approves the procedure and images

In-direct supervision:

Technologist is "immediately available" for student with procedures the student has achieved competency in.

- "Immediately Available" is defined as within physical calling distance (not via phone or intercom)
- All repeats, portables, mobile fluoroscopy and OR work done by students must be under direct supervision
- ALARA is practiced
  - Students are expected to utilize personal shielding during all fluoroscopy and mobile exams
  - Students may not hold patients or image receptors during an exposure
  - Students may not perform procedures on known pregnant patients – They may assist the Qualified Radiographers

Northcentral TECHNICAL COLLEGE

Clinical Competency Image Evaluation – *Second Year*

Student: _____ Exam: _____

1. **Image Anatomy Identification** *(20 points)*
   a) Name bones & bonie structures (alt. names)
   b) Soft tissue structures
   c) Related pathology
   d) Artifacts
   e) Bone classifications/growth (if extremity)

2. **Positioning / Alignment** *(20 points)*
   a) Part position
   b) Centering/angles
   c) Exam procedure/prep
   d) Contrast media use (if app.)
   e) Evaluation criteria for passing
   f) Ways to improve positioning

3. **Equipment Used** *(17 points)*
   a) Screens/imaging plate
   b) Grids/bucky factors
   c) Processing/HD curve
   d) SID/OID
   e) Filtration
   f) CR/PACS
   g) Other

4. **Technique Manipulation** *(18 points)*
   a) Exposure factors
   b) Contrast/brightness-exposure
   c) Scatter reduction
   d) Recorded detail
   e) S-value w/CR
   f) Ways to improve film

5. **Film Identification** *(5 points)*
   a) Proper marking/ID
   b) Proper hanging protocols

6. **Radiation Protection** *(10 points)*
   a) Patient protection
   b) Staff protection
   c) Room/equipment design
   d) Radiation monitoring
   e) Radiation biology

7. **Image Production Physics** *(10 points)*
   a) Tube components
   b) X-ray production
   c) X-ray interactions
   d) EM spectrum/other

Evaluation comments below:

_____ _____

Radiography faculty Signature Date Student Signature Date

Northcentral Technical College

Radiography Program

Clinical Evaluation form – from Technologists/CI's

Directions to evaluator: Circle the box (or between the boxes) that best represents where you think the student falls and **tally %!**

Student Name: _____ Site: _____

Responsibility	**10** This student is consistently on time, often arriving early to clinical. They regularly test out on exams and checklists, preparing for the next semester. They are always where they need to be within the department or rotation and are eager to help or stay to finish a case when needed.	**9** This student is on time for their assignment. They test out in a timely manner. They are in their assigned area and will help out in another when asked.	**8** This student is not always ready to start an exam at shift start. They leave the assigned area from time to time. This student tests out on exams, but it seems they are not sure of what is due.	**6** This student is often unprepared at the start of shifts and their location is unclear, with them sometimes in other areas. They are behind in testing out, either due to absences or procrastination. When they do try to test out or complete a checklist, it's typically at the end of the semester when things are busy.
Imaging Procedures	**8** Of the exams this student has learned, they know our routines by heart. They are working on learning routines for new exams and positions for patients accurately and without hesitancy. This student also knows where to find supplies and/or accessories.	**7** This student is working on memorizing our routines for what they have learned in class. This student needs a little guidance on how to position the patients. They also know where the basic supplies are stored.	**6** This student struggles with routines for learned exams. This students positioning is accurate about half the time. They do know where the supplies are, but isn't always prepared.	**4** This student fails to recall our routines for exams. We are often walking in and correcting this student's positioning. They do not remember where accessories are, nor when they are needed.
Equipment and Technique	**6** This student handles the equipment in all the rooms like a technologist and sets the proper technique without any assistance.	**5** This student is able to manipulate the equipment with some hesitancy, but they do try to figure it out on their own. They are trying their hand at setting techniques, with some success.	**4** Certain types of equipment seem to challenge this student. They try to set their own technique but after a while, we step in and assist.	**2** This student has a hard time working the equipment in a basic room, let alone moving the equipment in more advanced rooms. They are constantly asking what technique should be set.
Interaction with Patients	**8** Patients feel at ease with this student. They confidently talk with patients and make sure they understand what is going on and that the patient is comfortable.	**7** This student is interacting well with patients. They may show some hesitation in explaining exams but make an effort to provide quality patient care and communication.	**6** Student is gaining confidence when working with the patients. They are improving at explaining exams and keeping the patients comfortable.	**4** This student lacks confidence in patient care, often overlooking patient comfort and communication. They can be short or silent with patients and sometimes appear frustrated.
Technologist and Peer Rapport	**6** The staff, including other areas and other students, work well with this student. They respect everybody and rarely say anything negative about anyone and/or anything.	**5** Student is getting to know the technologists they are shadowing and the technologists are happy to share information with this student.	**4** Student is finally starting to feel comfortable with the staff here. They engage in conversations with staff at times.	**2** The staff is hesitant to engage with this student in conversation as a result of the student often being tactless and defensive.
Professionalism	**14** Student is neatly and appropriately dressed for clinical (including badges and footwear). They always display a positive attitude and communicate at a professional level to all hospital staff, not just x-ray.	**13** Student is dressed appropriately for radiography. *When* they do communicate, it seems positive and the language is appropriate for the setting.	**12** Student is wearing medical attire, but not always the utmost in professional attire. They occasionally forget markers and *when* they do interact with staff, it is short.	**10** Despite warnings, this student is consistently unprepared, lacking markers or wearing inappropriate attire. They may be sent home for missing badges. They also show a lack of respect for the staff and often respond inappropriately.

Quality of Work	**10** This student demonstrates above-average skills, producing passable images consistently. When repeats are needed, they recognize and correct mistakes, rarely repeating them. They work efficiently, set up the room in advance, and complete requests properly. Views are taken in the best order, with markers at least partially visible on the final image.	**9** This student's skills are on track, producing quality exams with few repeats. They correct supervised images with minimal guidance and avoid repeated mistakes. Room prep, view selection, and request completion take longer than a tech, and markers are within the collimated border about half the time.	**8** This student's skills are slightly below where they should be. They need a lot of correction to avoid repeats. When they do mark views, is it often not visible on the image. This student is inefficient when getting the room ready, completing the paperwork, and completing the exam.	**6** This student's skills are below expectations, requiring frequent corrections and staff intervention when imaging. They struggle to recognize mistakes and staff often have to step in. They neglect room prep and take excessive time on exam – even simple ones. Markers are forgotten and paperwork is either incorrect or left incomplete. This student has not gained our trust.
Radiation and Patient Safety	**10** The student moves patients efficiently and asks for help when needed. They consistently wear gloves, wash hands, and clean equipment when appropriate. They also remember to shield and ask about pregnancy without prompting. Their collimation is also well done for a student.	**9** Student moves patients properly, but it takes a while. Student washes hands and puts on gloves with the guidance of a tech. They shield or ask about pregnancy on their own about half of the time. Collimation is what you'd expect from a student at this point.	**8** Student eventually transports patients, but with a lot of guidance. This student sometimes needs to be reminded to wash hands or glove up. They seem to have a hard time determining when to shield or ask about pregnancy. Collimation is an issue - either it's too much or not enough.	**6** This student cannot be trusted right now to move patients safely. They do not know their limits and rarely wash their hands or wear gloves – despite reminders. They never shield or ask about pregnancy on their own. This student seems to not consider collimation either.
Initiative	**8** This student takes initiative by jumping into exams, even challenging ones, without being asked. They actively seek practice opportunities, including familiar and unfamiliar topics, and ask technologists for positioning tips, accepting feedback for improvement. Eager to learn, they absorb knowledge and strive for independence in their practice.	**7** While still hesitant at times, this student pushes through and tries new things. They are open to suggestions when learning new skills or exams and often apply them. When asked to do an exam, they step up and help, maintaining composure in difficult situations.	**6** This student lacks motivation at clinical, often needing prompts to participate in exams and shying away from difficult cases, possibly due to discouragement from constructive criticism. However, when they do well, they become more engaged and productive.	**4** This student is often disengaged in clinical, preferring to sit, talk, or study. They show little interest in unfamiliar exams and disregard those they've tested out on. When performing an exam or helping with one, any suggestions for improvement are met with frustration.
Composure and Adaptability	**6** This student keeps their cool in all changing exam situations. They portray confidence, even when things may go wrong, exam protocols change, or equipment malfunctions. This student is adaptable and able to think critically under pressure while still working efficiently.	**5** In most cases, this student remains claim and level-headed when exam conditions change. They can make minor adaptations to the routine to meet patient needs. They recognize the need for help or additional equipment even if they do not know what to do to fix the situation.	**4** This student needs to work on their composure and cannot adapt to changing conditions. They are by the book and for patients with multiple exams, they would not think to complete all of the APs first for patient comfort and efficiency. They are aware of this and working to improve.	**2** When exam conditions, such as patient health, equipment, or protocols change, this student freezes up. They may display fight or flight responses when things don't go as planned. In general, this student has not shown adaptability and needs full supervision.

Comments/ What skills should I work on obtain a position here?

Evaluator: _____ **Date**: _____ **Student Signature**: _____

Score (86 total) – Add up the numbers associated with the box chosen and divide by 86. DO NOT ROUND

/86

A	= > 93.5	B-	= 81.5 - 83.49
A-	= 91.5 - 93.49	C+	= 80.5 – 81.49
B+	= 87.5 - 91.49	C	= 79.5 – 80.49
B	= 83.5 - 87.49	D	= < 79.49

***Student must have a combined average of 80% on these evaluations in order to pass the clinical course**

Student Resources

Advising and NTC Student Resources

Program faculty and the College Advising Specialist for Health serve as student advisors. They can assist students with curriculum planning, identification of program requirements, interpretation of procedures and access to NTC student resources. Students or advisors are free to initiate a conference whenever the need arises. Students can independently access NTC program planning via the web utilizing www.NTC.edu and the "Workday" tab.

In-person, on-line and via the phone students have access to numerous staff and departments designed to make the path to their career choice easier. Check out the resources at www.NTC.edu and use the "Current Students" tab to find out more about counseling, financial aid, security, library, computer access, scholarships, child care, discounts, disability needs, fitness center, tutoring and many more services.

Faculty, students, advisors and resource teams all have access to Starfish via each enrolled Canvas course. This software allows students to schedule appointments, stay in touch and easily see if an instructor has sent kudos or raised a flag of concern on course progress. Check out the Starfish link within each canvas course.

Student E-mail

Email is NTC's official communication tool with students. Please check your NTC email often. All college and course communication will be through NTC student e-mail and Canvas. Please use professional communication at all times.

Student Employment

Many radiography students elect to hold outside employment during the program. Attendance during classroom and clinical assignments are established for program success. It is encouraged that outside employment be flexible to accommodate student schedules. Students may be employed to perform related work in a health care environment. The student is hired by the employer on their own time. This work has no connection to the clinical education activities of the program. Due to the rigorous nature of the program, it is recommended that outside employment not exceed 15 hours/week.

Scholarships and the NTC Foundation

The NTC Foundation's scholarship program plays a vital role in providing funds that enable our students to pursue their educational goals. Numerous general and healthcare scholarships are available each year through the NTC Foundation. Some of the scholarships are specific to Radiography or health care students. Enrolled students are encouraged to submit an application each semester. Scholarship criteria varies with financial need, leadership, program etc. Additional information can be found at: www.ntc.edu/scholarships

Health Learning Resource Lab

The HLRL located on the second floor of the Health Sciences Center is a simulation-based lab for student learning. Radiography students will have scheduled activities in the lab and have access to the computer lab if not reserved for a class. HLRL hours are posted each semester. The direct phone number is 715-803-1599.

Interprofessional Collaborative Simulation Day

During the Fall and Spring Term the Health Division as whole may come together on one day to take part in an Interprofessional Collaborative Simulation Exercise. This exercise focuses on the competencies outlined by the AAMC (Association of American Medical Colleges) which include:

- Values/Ethics for Interprofessional Practice
- Roles and Responsibilities
- Interprofessional Communication
- Teams and Teamwork

When a student's health division program is participating all students are required to take part as directed by their program director. This interprofessional exercise has been well received by past students and is recognized as an excellent learning opportunity. Students that are absent on the full day of simulation day will have make-up activates assigned.

Student Organizations

Student Clubs and Professional Organizations

Students are encouraged to become involved in student activities, and professional organizations. These activities promote development of leadership skills, increase opportunities for communication, expand interest, and professional networking. NTC offers many opportunities for student involvement.

- Wisconsin Society of Radiologic Technologists is a state organization for Radiographers. www.wsrt.net
- The American Society of Radiologic Technologists is a national professional organization for Radiographers and student radiographers. They offer student rates. Additional details located at www.asrt.org
- NTC Radiography club meetings and membership is posted each semester in the Radiography Classroom.
- The Student Government Association (SGA) is the voice of the students of NTC and represents the entire NTC student body (day, evening, regional campuses, IVC). The purpose of SGA is to provide students with a forum for discussing campus affairs concerning students. Find out more at www.ntc.edu/studentlife

Other Student Information

Counseling Services

TimelyCare delivers a virtual health and well-being platform for students. Through either a mobile app or desktop, and accessible through Canvas, TimelyCare provides 24/7/365 access to virtual care from anywhere in the United States at no cost. Students can talk to a licensed provider to get the care they need via phone or secure video visits.

Students can visit timelycare.com/ntc or download the TimelyCare app from their app store and register with their school email address and password. They can then start visits from any web-enabled device – smartphone, tablet, laptop, or desktop – anywhere in the United States.

Campus Closings due to Weather

If the main campus closes due to weather related concerns, students should sign into their Canvas course shell for lecture classes and expect to learn from home on that day during the normal lecture slot. For lab classes held at the NTC campus, content will be re-scheduled. Please look at Canvas announcements for make-up plan.

Students may NOT attend clinical. If the campus closes at 5 pm, students in pm clinical rotations must leave clinical as well. The first weather day each semester need not be made up, but additional days will need to be rescheduled-with the exception of those falling in the last week of semester classes. If the outlying campuses close due to weather, it will be the student's own decision to attend clinical and the time must be made up similar to sick days. A decision to close school for the day will be made by 6 am and will be recorded on the NTC main number (715) 675-3331 and at www.ntc.edu. Changes later in the day will be made on the outgoing message. The local TV and radio stations are given these school closings as well. Due to the vast area of student traveling and varied weather conditions, each student must be responsible for determining their own safety for travel.

Transportation and Parking

Transportation to and from Northcentral Technical College and to the various clinical facilities is the responsibility of the student. Parking stickers for clinical sites are available from Human Resources or security at each site. Students shall follow clinical site parking guidelines.

Discrimination and Harassment Complaints

Because discrimination and harassment, a form of discrimination, are illegal practices, and because these actions can cause serious harm to the productivity, efficiency, and stability of all activities taking place at, or sponsored by, Northcentral Technical College, the District will take specific steps to investigate and eliminate discrimination and harassment. Complaints may be reported either formally or informally.

Discrimination shall mean any difference in treatment in any service, program, course, or facility of the Northcentral Technical College District because of the person's political affiliation, age, race, creed, religion, color, handicap (disability), marital status, parental status, sex, national origin, ancestry, sexual orientation, pregnancy, arrest record, conviction record, services in the armed forces, genetic testing, or use or non-use of lawful products off the District premises during non-working or non-class hours.

Students should go http://www.ntc.edu/current-students/guidelines-procedures to read the full policy and reporting steps.

Title IX: Pregnant and Parenting Students

Under Title IX, it is illegal for colleges to exclude a pregnant student from participating in any part of an educational program. Northcentral Technical College (NTC) is committed to the fundamental academic principles of equity by providing all students with equitable access to the college's programs, services, events, and staff development activities. NTC will achieve this goal by endorsing a guideline for pregnant and parenting students. This guideline supports students that may have restrictions/limitations due to a pregnancy or birth of a child.

As soon as a student is aware of limitations/restrictions that may require absences or accommodations due to pregnancy or the birth of a child, a student is encouraged to start the process of applying for Title IX: Pregnant and Parenting Students by accessing NTC website, review complete policy and following the steps outlined at https://www.ntc.edu/policies/title-ix/pregnant-and-parenting-students For more information regarding the accommodation process for Title IX Pregnant and Parenting Students, please contact The Center for Access and Accommodations.

Drug and Alcohol-Free Workplace Policies for Clinical Sites

Most clinical sites have strict drug and alcohol policies for employees and students. All alcohol or drugs that could impair student function within the health care setting including prescription, non-prescription, legal and illegal drugs are prohibited. Clinical sites have the right to request that a student undergo drug testing. Students refusing to voluntarily submit to test may be asked to leave the clinical site. Any level of drug or alcohol in the tested sample is sufficient to have the student temporarily or permanently removed from clinical classes. Please refer to specific clinical site policies for more detailed information. See Behavioral Dismissals in the Radiography Handbook. Counseling resources include:

North Central Health Care Crisis Hotline
715.845.4326 or *800.799.0122* or *988*

National Institution on Drug Abuse
Mon - Fri, 8:30 a.m. - 4:30 p.m.
800.662.HELP

National Alcohol & Drug Abuse Hotline
800.234.0420

Cocaine Helpline
800.COCAINE

Reach-Out Hotline (Alcohol, drug-crisis, intervention, mental health referral)
800.522.9054

Mandatory Student Accident Insurance (Pan American Life Insurance Group)

This insurance plan will cover students when an accident occurs on campus, attending a practicum program or other recognized student group approved by the College or during travel to and from a program. The plan offers comprehensive benefits including hospital room and board, inpatient and outpatient surgical procedures, labs and x-rays, physician office visits, ambulance, durable medical equipment, emergency care and prescription drugs. There are no deductibles and the maximum benefit allowed for each accident is $50,000. This coverage per student per semester is $7.50.

Please see https://studentlife.ntc.edu/health-services/ for more information. Students can opt out of the Mandatory Accident Insurance program if they can provide proof of similar accident insurance coverage. For more information, please contact Shawn Sullivan at sullivan@ntc.edu or 715.803.1267.

Aspirus Wausau Family Medicine Clinic

The following services will be provided to NTC students at no cost to the student, with a valid current student ID:

- Rubella, Mumps, Measles Titer Varicella Titer (chickenpox)
- TB skin tests Administered by appointment only: Reads will be scheduled appointments
- Physical exam per school form/parameters

The above services are available by appointment only, between 9:00 a.m. and 4:00 p.m., Monday through Friday, only at Aspirus Business Health Clinic Locations. Review the details at https://studentlife.ntc.edu/health-services/ for addresses/phone numbers and pricing.

When you call, please let them know you are an NTC health program student. Not doing this might result in Aspirus requiring payment.

Magnetic Resonance Screening Form for Students

Magnetic resonance (MR) is a medical imaging system in the radiology department that uses a magnetic field and radio waves. This magnetic field could potentially be hazardous to students entering the environment if they have specific metallic, electronic, magnetic, and/or mechanical devices. Because of this, students must be screened to identify any potential hazards of entering the magnetic resonance environment before beginning clinical rotations.

***Pregnancy Notice*:** The declared pregnant student who continues to work in and around the MR environment should not remain within the MR scanner room or Zone IV during actual data acquisition or scanning.

Student Name: _____ **Date**: _____

	Circle *Yes* or *No*	
1. Have you had prior surgery or an operation of any kind? If yes to question 1, please indicate the date and type of surgery: Date: Surgery Type:	Yes	No
2. Have you had an injury to the eye involving a metallic object (e.g. metallic slivers, foreign body)? If yes to question 2, please describe:	Yes	No
3. Have you ever been injured by a metallic object or foreign body (e.g., BB, bullet, shrapnel, etc.)? If yes to question 3, please describe:	Yes	No

Please indicate if you have any of the following:

Aneurysm clip(s)	Yes	No
Cardiac pacemaker	Yes	No
Implanted cardioverter defibrillator (ICD)	Yes	No
Electronic implant or device	Yes	No
Magnetically-activated implant or device	Yes	No
Neurostimulator system	Yes	No
Spinal cord stimulator	Yes	No
Cochlear implant or implanted hearing aid	Yes	No
Insulin or infusion pump	Yes	No
Implanted drug infusion device	Yes	No
Any type of prosthesis or implant	Yes	No
Artificial or prosthetic limb	Yes	No
Any metallic fragment or foreign body	Yes	No
Any external or internal metallic object	Yes	No
Hearing aid	Yes	No
Other device:	Yes	No

I attest that the above information is correct to the best of my knowledge. I have read and understand the entire contents of this form and have had the opportunity to ask questions regarding the information on this form. Should any of this information change, I will inform my program director.

Student Signature: _____ Date: _____

[ ] The student has not identified any contraindications to entering MR Zone III or IV.
[ ] The student has identified contraindications to entering MR Zones III and IV. The student has been advised not to progress past MR Zone II unless screened by an MR Level II Technologist onsite at each clinical setting.

Form Information Reviewed By:
Print Name: Signature: Title:

Radiography Program - Student Handbook Acknowledgment

By signing below, I acknowledge that I have read the Student Handbook of the Northcentral Technical College Radiography Program. I accept the responsibility of understanding and complying with all the procedures and guidelines of the program and being a student at NTC. I understand that this handbook works in conjunction with NTC student policies listed on NTC's website – www.ntc.edu. I understand the most current copy of the handbook is available on-line at NTC's website on the Radiography Program page. I understand that I have the opportunity to ask for clarification on any policies outlined in the Handbook. Changes in policies may supersede, modify or eliminate the policies summarized in this handbook. These guidelines, policies and codes of conduct described in this handbook, the NTC website and assigned clinical affiliates are expected to be followed by each student in the Radiography Program. Failure to comply with policies may result in dismissal from the Radiography Program.

Clinical Schedules

I accept that should I elect to make changes in my clinical schedule, I may voluntarily exceed 40 hours program involvement per week.

Radiography Permission to Survey Employers

NTC surveys graduates' employers to gather information to fulfill program accreditation requirements, improve programs & services, and better meet employer needs. The survey focuses on employer satisfaction in regards to graduates' technical work proficiencies & interpersonal skills and overall general satisfaction with NTC graduates.

Survey data is summarized and no identifying information will be shared that could associate an employer to a specific graduate. Personal information and the responses of the employer are kept confidential.

By completing the Student Handbook Verification Signature page, I grant permission for representatives of Northcentral Technical College and my program, to contact and survey my current and future employers for the purpose of gathering information concerning employer satisfaction.

Clinical Experience Declaration

By signing below, I acknowledge that as a student at Northcentral Technical College in the Radiography Program, I voluntarily agree to participate in on and off campus clinical experiences for the completion of the Radiography program. I agree to exercise reasonable care at all times with respect to my own safety and the safety of others. I agree to abide by all rules, policies, and procedures set forth in any affiliated partner directives, any NTC directives, the Radiography Student Handbook, NTC student policies and guidelines, including its Code of Conduct, as well as any participation, activity, safety and other instructions that NTC may provide to me. I agree to comply with all directives regarding social distancing, using personal protective equipment, screening protocols, and adhering to strict disinfection techniques as well as frequent hand sanitization.

_____	_____	_____
Name – Printed	Signature	Date