Carolinas College of Health Sciences

Radiologic Technology Program Guide

2025-2026

Carolinas College of Health Sciences
Radiologic Technology Program

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Note: Program requirements, as well as policies, are periodically changed. New or revised requirements and/or policies become effective when policies are changed, and the additions and/or revisions supersede any previous requirement and/or policy in past use, whether in writing or in past practice.

SECTION 1: GENERAL PROGRAM INFORMATION

1.0 INTRODUCTION

This program guide is designed to assist students as they navigate the opportunities, expectations, and requirements of the Radiography program at Carolinas College of Health Sciences. The program guide includes information which will provide the incoming student with useful information regarding the administration, organization, and educational components of the Radiologic Technology program. Students are encouraged to consult the program guide for specific information related to the policies and procedures within the Radiologic Technology program. In addition, the program guide outlines the requirements regarding admission requirements, course completion, and progress within the program. This information, along with the counsel of your academic advisor and faculty mentors, will assist you in successful completion of your goals within the Radiologic Technology program.

The effectiveness of this program depends upon the cooperation of the students, faculty, and staff within each radiology department. The contributions of each student are important factors in the success of our program and the services offered to our patients. This program guide is representative of the Radiologic Technology program's standards and expectations. This information is intended to inform and assist you in making a satisfactory adjustment to your career and environment. Each Radiologic Technology student is expected to read, become knowledgeable, and comply with the contents of this program guide. It is recommended that students frequently refer to this guide and the College Catalog for guidance and clarification of policies, procedures, and expectations.

Carolinas College of Health Sciences' Radiologic Technology program does not discriminate because of race, color, gender, sex, ancestry, national origin, marital status, age, religious preference, or disability. For further information, see the non-discrimination notice published in the College catalog.

1.1 PROGRAM OVERVIEW

The Radiologic Technology program is designed for students to complete the requirements for an associate in applied science degree in Radiography (AAS) in five semesters. The degree curriculum integrates a total of 72 credits of didactic and clinical instruction with increasing expectations of progression at each quarter. A combination of courses from the general education core curriculum and the radiology major curriculum are required to prepare the student to be a radiographer, a skilled health care professional who uses radiation to produce images of the
human body.

Our curriculum is designed to provide instruction and clinical experience in the science and art of radiography. In this full-time radiography program, the student receives highly

diversified instruction through a blend of classroom, laboratory, and clinical education which includes clinical rotations to area health care facilities, radiographic exposure, image processing, radiographic procedures, physics, pathology, patient care and management, radiation protection, quality assurance, anatomy and physiology, and radiobiology through a blend of classroom, laboratory, and clinical education, students learn radiographic equipment operation, patient positioning, radiation safety, and patient care.

The curriculum prepares students to be competent medical radiographers. A medical radiographer, or radiologic technologist, is an allied health professional skilled in the application of ionizing radiation to produce diagnostic images which are medically interpreted. The responsibilities of a radiologic technologist include manipulating varied types of imaging equipment; positioning the body for radiographic examination; providing patient care in the radiologic context; evaluating the diagnostic quality of an image and applying proper radiation protection.

The faculty of Carolinas College of Health Sciences provides a foundation of general education coursework that emphasizes the attainment of knowledge and skills as these relate to human interactions, communication, ethics, critical and analytical thinking, and reasoning skills at the undergraduate level. The Radiologic Technology program correlates didactic and clinical instruction enabling the student to become a competent health care professional. This approach enables graduates to competently perform tasks as identified in their scope of practice as healthcare providers.

1.2 MISSION STATEMENT

Carolinas College of Health Sciences Radiologic Technology Program engages, educates, and provides graduate technologists with a foundation in the performance of entry-level diagnostic procedures in a variety of healthcare settings.

The Radiologic Technology program maintains a comprehensive curriculum, which includes verifying the competence and professionalism of our students. Faculty and staff work together to promote an optimal educational experience for all students, promoting critical thinking, leadership, and life-long learning. The curriculum, resources, and clinical affiliates facilitate the students' development into an essential role in the profession, serving the community, and attaining personal enrichment.

1.3 PROGRAM GOALS and LEARNING OUTCOMES

Goal 1: Students will become clinically competent.

1. Students will demonstrate knowledge of radiographic positioning and techniques.
2. Students will practice radiation protection and safety for the patient, self, and others.

Goal 2: Students will develop effective written and oral communication skills.

1. Students will demonstrate effective written and oral communication skills in clinical performance.
2. Students will demonstrate effective written and oral communication skills in didactic performance.

Goal 3: Students will develop critical thinking skills.

1. Students can adjust exposure factors and vary positioning techniques for a variety of patient conditions to maintain radiographic quality.
2. Students can evaluate radiographic images for appropriate positioning and image quality.

1.4 PROGRAM PURPOSE

The Radiologic Technology program teaches students to safely utilize x-rays to perform diagnostic imaging procedures using state-of-the-art equipment while using professional and ethical judgment and critical thinking when performing their duties.

1.5 PROGRAM OBJECTIVE

The objective of the Radiologic Technology program curriculum is to prepare students to be proficient medical imaging radiographers. The radiographer is a skilled person qualified by technological education to provide patient services using imaging modalities (as directed by providers qualified to order and/or perform radiologic procedures). This is accomplished by:

- applying knowledge of the principles of radiation protection for patient, self, and others.
- applying knowledge of anatomy, positioning, and radiographic techniques to accurately demonstrate anatomical structures on a radiograph.
- determining exposure factors to achieve optimum radiographic technique with a minimum of radiation exposure to the patient.
- examining radiographs for the purpose of evaluating technique, positioning, and other pertinent technical qualities.
- exercising discretion and judgment in the performance of medical imaging procedures.
- providing patient care essential to radiologic procedures.
- recognizing emergency patient conditions and initialing lifesaving first aid.

Graduates can be employed in radiology departments in hospitals, clinics, medical offices, research and medical laboratories, federal and state agencies, and industry. Graduates are eligible to take the national examination given by the American Registry of Radiologic

Technologists (ARRT) for certification and registration as medical radiographers.

1.6 PROGRAM PHILOSOPHY

The educational philosophy of the Radiologic Technology program can be summarized in two words, collaborative and comprehensive. The program strives to provide the student with experiences in the classroom and laboratory which will enhance their skillset which can be clinically applied. The clinical practicum portion of the curriculum has maximum impact on the individual student and helps to develop the level of competency necessary for an entry-level medical radiographer.

1.7 PROGRAM ACCREDITATION

The Radiologic Technology program is accredited by the:

The Joint Review Committee on Education in Radiologic Technology (JRCERT)
20 North Wacker Drive, Suite 2850
Chicago, Illinois 60606-3182
Phone: (312) 704-5300
Email: mail@jrcert.org
Website: http://www.jrcert.org

The program's current award is 8 years. General program accreditation information and current accreditation award letter can be found here.

1.8 CLINICAL EDUCATION SITES

Clinical Site	Address
Atrium Health-Carolinas Medical Center • Atrium Health-Morehead Medical Plaza (MMP) • Levine Children's Hospital • CMC Orthopedics • Levine Cancer Institute • Children's Specialty Center	1000 Blythe Blvd. Charlotte, NC 28203
Atrium Health - Mercy	2001 Vail Ave. Charlotte, NC 28207
Atrium Health - Pineville	10628 Park Road Charlotte, NC 28210
Atrium Health - University City	8800 N. Tryon St. Charlotte, NC 28262
Atrium Health - Myers Park	1350 S. Kings Drive Charlotte, NC 28207
Atrium Health - Steele Creek Freestanding Emergency Department	13640 Steelecroft Parkway Charlotte, NC 28278
Atrium Health – Waxhaw Freestanding Emergency Department	2700 Providence Road S. Waxhaw, NC 28173
Atrium Health Musculoskeletal Institute, Orthopedics and Sports Medicine - Pineville	10660 Park Road Suite 3100 Charlotte, NC 28210
Atrium Health MSKI Sports Medicine - Ballantyne	14214 Ballantyne Lake Rd. Suite 150B Charlotte, NC 28277
Atrium Health MSKI Sports Medicine - Randolph	3030 Randolph Rd Suite 105B Charlotte, NC 28211
Atrium Health Urgent Care - Concord Mills	8815 Christenbury Pkwy Suite 30 Concord, NC 28027
Atrium Health Urgent Care - Lemmond Farm	12016 Lemmond Farm Dr. #100 Charlotte, NC 28277
OrthoCarolina – Matthews	710 Park Center Dr. Matthews, NC 28105
OrthoCarolina – Pineville	9101 Pineville Matthews Rd. Suite D Pineville, NC 28134
OrthoCarolina – Ballantyne	15825 Ballantyne Medical Pl Suite 100 Charlotte, NC 28277

*Clinical sites are added based on availability. Distance to the clinical site from campus is located on the program's website.

1.9 COLLEGE ADMINISTRATIVE STRUCTURE

Interim President …… Jodie Huffstetler, EdD
Provost ……Lee Braswell, MPH, R(T)(T), CMD
Dean, Student Affairs and Enrollment Management …… Jared Smith, PhD

1.10 RADIOGRAPHY PROGRAM FACULTY

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1.11 PROGRAM-SPECIFIC FEES

Effective Fall 2025	Fee
Tuition Deposit/Background Check	$200
Tuition (per credit hour)	$512
Learning Resource Fee (per semester)	$275
Health Assessment/Immunizations	Insurance Copay
CPR Certification	$60
Health Insurance	Varies by Provider
Access, Parking, Security Fees (per semester)	$25
Uniforms (2 sets with warm up jacket)	$215 plus tax and shipping
Uniform Shoes	$75 (estimate)
RAD 110 Course Pack	$35
RAD 110, RAD 130 & RAD 150 Lab Fee	$80
Initial Lead Marker Set	$25
Additional Lead Marker Sets	$10-20
Textbooks Semester I*	$597.04
Textbooks Semester II*	$147.99
Textbooks Semester III*	$95.99
Textbooks Semester IV*	$181.98
Textbooks Semester V*	$75.97
Graduation Fee	$200
ARRT National Certification Exam	$225.00

*Additional recommendations may be offered by instructors to supplement the required textbooks for individual courses. Please refer to the course syllabus and the bookstore for a list of recommended/optional resources.

SECTION 2: RADIOLOGIC TECHNOLOGY PROFESSION

2.0 RADIOLOGIC TECHNOLOGIST CERTIFICATION

Students successfully completing the associate in applied science degree in Radiologic Technology will be eligible to sit for the registry examination administered by the American Registry of Radiologic Technologists (A.R.R.T.). Successful completion of the A.R.R.T. examination provides licensure for individuals to practice as a registered Radiologic Technologist. Students convicted of a felony could be excluded from actual clinical experience

and/or the opportunity to take the A.R.R.T. certification examination. Visit https://www.arrt.org/ for more information.

2.1 QUALIFICATIONS FOR CERTIFICATION

In accordance with the American Registry of Radiologic Technologist's "Equation for Excellence", candidates for ARRT certification must meet basic requirements in three components of the equation:

1. Ethics
2. Education
3. Examination

Ethics

Every candidate for certification and every applicant for renewal of registration must, according to the governing documents, "be a person of good moral character and must not have engaged in conduct that is inconsistent with ARRT Rules of Ethics, and they must "agree to comply with the ARRT Rules and Regulations and the ARRT standards of Ethics." ARRT investigates all potential violations to determine eligibility. The ARRT Standards of Ethics provides proactive guidance on what it means to be qualified and to motivate and promote a culture of ethical behavior within the profession. Compliance with the Rules of Ethics is required for initial eligibility for certification and for ongoing registration. The Code of Ethics serves as an aspirational guide to achieving the highest standards of patient care.

Education

Eligibility for certification also specifies the satisfaction of educational preparation requirements. For the primary categories, eligibility requires the successful completion of the respective discipline's formal educational program that is accredited by a mechanism acceptable to the ARRT. Candidates must also demonstrate competency in didactic coursework and an ARRT-specified list of clinical procedures.

Examination

Eligibility requires candidates for certification, after having met all other qualifications, to pass an examination developed and administered by the ARRT. The exams assess the knowledge and cognitive skills underlying the intelligent performance of the tasks typically required of staff technologists practicing within the respective disciplines. Exam content is specified on the ARRT website and in the respective handbook for each discipline.

2.2 ARRT STANDARD OF ETHICS

The American Registry of Radiologic Technologists
Principles of Professional Conduct / Standard of Ethics

This Code shall serve as a guide by which Radiologic Technologists evaluate their professional conduct as it relates to patients, colleagues, other members of the healthcare team, healthcare consumers, and employers. The Code is intended to assist radiologic technologists in maintaining a high level of ethical conduct. The entire Standards of Ethics can be found at: ARRT Code of Ethics.

1. The radiologic technologist acts in a professional manner, responds to patient needs and supports colleagues and associates in providing quality patient care.
2. The radiologic technologist acts to advance the principal objective of the profession to provide services to humanity with full respect for the dignity to mankind.
3. The Radiologic Technologist delivers patient care and service unrestricted by the concerns of personal attributes or the nature of the disease or illness, and without discrimination on the basis of sex, race, color, creed, religion, national origin, sex, martial status, status with regard to public assistance, familial status, disability, sexual orientation, gender identify, veteran status, age, or any other legally protected basis.
4. The radiologic technologist practices technology founded upon theoretical knowledge and concepts, uses equipment and accessories consistent with the purposes for which they were designed, and employs procedures and techniques appropriately.
5. The radiologic technologist assesses situations; exercises care, discretion, and judgment; assumes responsibility for professional decisions; and acts in the best interest of the patient.
6. The radiologic technologist acts as an agent through observation and communication to obtain pertinent information for the physician to aid in the diagnosis and treatment of the patient and recognizes that interpretation and diagnosis are outside the scope of practice for the profession.
7. The radiologic technologist uses equipment and accessories, employs techniques and procedures, performs services in accordance with an accepted standard of practice, and demonstrates expertise in minimizing radiation exposure to the patient, self, and other members of the healthcare team.
8. The radiologic technologist practices ethical conduct appropriate to the profession and protects the patient's right to quality radiologic technology care.
9. The radiologic technologist respects confidences entrusted in the course of professional practice, respects the patient's right to privacy, and reveals confidential information only as required by law or to protect the welfare of the individual or the community.
10. The radiologic technologist continually strives to improve knowledge and skills by participating in continuing education and professional activities, sharing knowledge with colleagues and investigating new aspects of professional practice.
11. The Registered Technologist refrains from the use of illegal drugs and/or any legally controlled substances which result in impairment of professional judgment and/or ability to practice radiologic technology with reasonable skill and safety to patients.

2.3 ARRT ETHICS REVIEW

Candidates for certification and R.T.s are held to stringent ethics standards in order to be eligible for initial certification and annual renewal of registration. Individuals who are considering enrolling in an educational program or who are more than six months in advance of graduation may want to take advantage of the ARRT Ethics Review Pre-Application process in order to determine their ethics eligibility. Individuals who apply for a primary pathway to certification must answer three ethics-related questions on the application form. The questions address convictions, court-martials, disciplinary action by regulatory or other certification boards, and educational honor code violations. The Ethics Review Pre-Application is reserved for those who are not yet enrolled in an ARRT-recognized educational program or enrolled in an ARRT-recognized educational program and are at least six months away from graduation. The Ethics Review Pre-Application provides an early ethics review of violation(s) that would otherwise need to be reported on your Application for Certification when you have completed an ARRT-recognized educational program and may be used for the following circumstances:

- Criminal proceedings including:
    - o Misdemeanor charges and convictions
    - o Felony charges and convictions
    - o Military court-martials; and/or
- Disciplinary actions taken by a state or federal regulatory authority or certification board; and/or
- Honor code violations (college, institution, hospital, etc.)

Applicants with such a history are strongly advised to contact the ARRT and go through the pre-application process to determine future eligibility status before enrolling in the radiography program. Further information can be found on the ARRT website: https://www.arrt.org/ or by calling The ARRT at (651) 687- 0048. Decisions on ARRT applicant eligibility based on criminal background are solely the responsibility of the ARRT.

2.4 ROLE OF RADIOLOGIC TECHNOLOGIST

Radiologic Technologists are the medical personnel who perform diagnostic imaging examinations and administer radiation therapy treatments. A Radiologic Technologist uses critical thinking and independent judgment to obtain a diagnostic imaging study while maintaining quality patient care and minimizing radiation exposure. They are educated in anatomy, patient positioning, examination techniques, equipment protocols, radiation safety, radiation protection and basic patient care. Technologists are employed in acute care settings, ambulatory care settings, physicians' offices, in education, and in management or sales positions. They may specialize in a specific imaging technique such as bone densitometry, cardiovascular-interventional radiography, computed tomography, mammography, magnetic resonance imaging, nuclear medicine, quality management, sonography, or general radiography. The Radiologic Technologists who specialize in radiation therapy, which is the delivery of high doses of radiation to treat cancer and other diseases, are radiation therapists

and medical dosimetrists. Registered Radiologic Technologists must complete at least two years of formal education in an accredited two- or four-year educational program at an academic institution and must pass a national certification examination. To remain registered, they must earn continuing education credits.

The associate in applied science degree in Radiography prepares students to become members of the health care team in a variety of settings. Radiologic Technologists must be sensitive to the patients' physical and psychological needs, pay attention to detail, follow instructions, work as part of a team and demonstrate mechanical ability and manual dexterity. Radiologic Technologists operate sophisticated equipment to help physicians and surgeons, and other health practitioners diagnose and treat patients.

2.5 FUNCTIONAL CAPABILITIES

Applicants applying for admission to the program are strongly advised to review the functional capacities described in the following chart below for Radiologic Technologists.

Function	Requirement	Example Tasks
Vision	Adequate to ensure safety of self and others in didactic and clinical settings and to discriminate between black, white, and a scale of gray.	Discriminate diagnostic quality of radiographs; observation and visual assessment of a patient's condition; preparation of radiographic facility and filling contrast media into a syringe.
Hearing	Adequate and effective communication with others in close proximity (15 feet) and remote areas (30 feet) while donning a surgical mask.	Verbal communication with patients, clinical staff, and others; telephone communication; patient assessment; responding to pagers and overhead announcements.
Gross Motor Strength and Coordination	Adequate to allow effective mobility of self, imaging equipment, and patients for at least 50 feet and to lift 25 pounds from the ground to waist level and extend that weight out from the body at a minimum of 12 inches.	Safe transfer of patients; mobility and strength to move patients and equipment; safe and efficient mobility in a sterile environment; coordinated movement in the performance of mobile imaging procedures; safe and efficient movement of medical imaging equipment.
Fine Motor Strength and Coordination	Adequate to allow use of medical and imaging equipment while maintaining a safe environment to patients and others; able to lift and carry two imaging receptors in each hand simultaneously.	Technical factor control selection on panels; venous injection of drugs; assisting catheter manipulation during imaging procedures; placement and movement of image receptors, positioning the radiographic tube at standard parameters; angulation of the radiographic tube; operation of tube and equipment locks.
Critical-Thinking Ability	Adequate to allow mastery of course content and to demonstrate sound judgment in simulated and clinical situations.	Identifying non-routine radiographic procedures to produce diagnostic radiographs; identifying cause and effect relationships in patient positioning and related anatomy; identifying relationships of accessory devices utilized in image formation.
Interpersonal Skills	Adequate to facilitate effective working relationships with peers, instructors, patients, and families.	Interaction with severely injured or critically ill patients; providing patient education; working in a stressful environment; providing quality patient care.
Communication	Adequate to allow coursework completion and effective communication with patients, their families, peers, and clinical staff in English.	Class and laboratory presentations; homework assignments; providing patient education and instructions; interaction with clinical staff.

2.6 RADIOGRAPHY PRACTICE STANDARDS

The practice of radiography is performed by a segment of health care professionals responsible for the administration of ionizing radiation to humans for diagnostic, therapeutic or research purposes. A Radiologic Technologist performs radiographic procedures and related techniques, producing images at the request of and for interpretation by a licensed independent practitioner.

The complex nature of disease processes involves multiple imaging modalities. Although an interdisciplinary team of radiologists, radiologic technologists, and support staff play a critical role in the delivery of health services. It is the radiographer who performs the radiographic examination that creates the images needed for diagnosis. Radiography integrates scientific knowledge, technical skills, patient interaction, and compassionate care resulting in diagnostic information. A radiologic technologist recognizes the patient's condition for the successful completion of the procedure.

Radiologic Technologists must demonstrate an understanding of human anatomy, physiology, pathology and medical terminology. Radiologic Technologists must maintain a high degree of accuracy in radiographic positioning and exposure technique. They must possess, utilize, and maintain knowledge of radiation protection and safety. Radiologic Technologists independently perform or assist the licensed independent practitioner in the completion of radiographic procedures. Radiologic Technologists prepare, administer and/or document activities related to contrast and medications in accordance with state and federal regulations or lawful institutional policy.

Radiologic Technologists are the primary liaison between patients, licensed independent practitioners, and other members of the support team. Radiographers must remain sensitive to the physical and emotional needs of the patient through good communication, patient assessment, patient monitoring, and patient care skills. As members of the health care team, radiographers participate in quality improvement processes and continually assess their professional performance. Radiologic Technologists think critically and use independent, professional, and ethical judgment in all aspects of their work. They engage in continuing education to enhance patient care, public education, knowledge, and technical competence.

2.7 RADIOLOGIC TECHNOLOGIST SCOPE OF PRACTICE

The scope of practice of the medical imaging professional includes:

- Apply knowledge of anatomy, physiology, positioning, and radiographic techniques to accurately demonstrate anatomical structures on a radiograph or imaging receptor.
- Perform diagnostic radiographic procedures.
- Apply principles of ALARA to minimize exposure to patient, self, and others; determine exposure factors to achieve optimum radiographic techniques with minimum radiation exposure to the patient and self.
- Evaluate radiographic images for appropriate positioning and image quality.
- Determining radiographic technique exposure factors.
- Apply the principles of radiation protection to the patient, self, and others.
- Provide patient care and comfort.
- Verify informed consent.
- Recognize emergency patient conditions and initiate lifesaving first aid and basic life-support procedures.
- Evaluate the performance of radiologic systems, know the safe limits of equipment operations, and report malfunctions to the proper authorities.
- Exercise independent judgment and discretion in the technical performance of medical imaging procedures.
- Participate in radiologic quality assurance programs and/or perform ongoing quality assurance activities.
- Receive, relay and document verbal, written and electronic orders in the patient's medical record.
- Provide patient/public education related to radiologic procedures and radiation protection safety.
- Utilize physical strengths and capabilities by assisting and lifting patients onto and from radiographic tables, carrying various accessory equipment, and manipulating radiographic equipment.
- Demonstrate expected ethical and professional behavior.
- Communicate and interact effectively with patients, the members of the healthcare profession, and others.

SECTION 3: RADIOLOGIC TECHNOLOGY PROGRAM CURRICULUM

3.0 PROGRAM CURRICULUM OUTLINE

Fall Semester (Effective Fall 2025)		Credits
RAD 101	Introduction to Patient Care (Fall 1 – 7-week course)	2
RAD 110	Applied Radiography I	4
RAD 115	Introduction to the Clinical Environment (Fall II – 7-week course)	1
HLC 102	Medical Terminology	2
BIO 168	Human Anatomy and Physiology I	4
MAT 143	Quantitative Literacy	3
	Total	16

Spring Semester		Credits
RAD 130	Applied Radiography II	4
RAD 135	Practicum Education I	2
RAD 140	Radiation Physics	4
BIO 169	Human Anatomy and Physiology II	4
ENG 101	English	3
	Total	17

Summer Semester		Credits
RAD 150	Applied Radiography III	3
RAD 155	Practicum Education II	3
RAD 160	Imaging I	2
COM 120	Interpersonal Communication	3
	Total	11

Fall Semester, Second Year		Credits
RAD 210	Applied Radiography IV	3
RAD 215	Practicum Education III	4
RAD 220	Imaging II	2
HUM ###	Humanities Course	3
	Total	12

Spring Semester, Second Year		Credits
RAD 230	Applied Radiography V	3
RAD 235	Practicum Education IV	4
RAD 240	Radiation Protection	4
SOCSCI ###	Social Science Course	3
	Total	14

Degree requirements	Credits
Radiologic Technology Applied Courses	47
General Education Courses	23
Special Topics Courses	2
Total	72

3.1 RADIOLOGIC TECHNOLOGY COURSE DESCRIPTIONS

RAD 101: Introduction to Patient Care
Credits: 2 (2 Class) This is a theory course which introduces students to concepts of basic patient care. The course provides students with an introduction to the essential and supporting elements of the radiologic imaging process to include communication, professional behaviors, radiation safety and protection, and legal-ethical considerations. Emphasis is on developing skills essential to patient care and assessment and written and oral communication. Prerequisite: Admission to the radiologic technology program. Co-requisites: RAD 110.

RAD 110: Applied Radiography I
Credits: 4 (3 Class, 1 Lab) This is a theory and lab course which introduces the student to concepts basic to Radiologic Technology. The course provides an introduction to the essential and supporting elements of the radiologic imaging process to include procedure methods, radiation protection, equipment operation, image evaluation and legal-ethical considerations. Lab emphasis is on developing skills essential to patient care and assessment, written and oral communication, radiation safety and equipment operation. Incorporated into the course are radiographic procedure methods for radiography of the upper/lower extremity, shoulder girdle, pelvic girdle, chest and abdomen. Prerequisite: Admission to the radiologic technology program. Co-requisites: RAD 101

RAD 115: Introduction to the Clinical Environment
Credits: 1 (1 Practicum) Introduction to the Clinical Environment provides an opportunity to develop the skills needed to provide patient-centered care in a diagnostic imaging environment. Orientation to the clinical environment will include tours of designated facilities. Competency Skills will be completed through structured sequential assignments and shadowing at designated clinical facilities.

RAD 130: Applied Radiography II
Credits: 4 (3 Class, 1 Lab) This is a theory and lab course designed to focus on radiographic procedure methods for radiography of the lower extremity, vertebral column, genitourinary and gastrointestinal systems as well as specialty imaging such as myelography and trauma imaging. Prerequisite: RAD 101, 110, BIO 168, HLC 102, MAT 101; Co-requisites: RAD 140.

RAD 135: Practicum Education I
Credits: 2 (2 Practicum) Emphasis is on the development of patient care and communication skills, professional behaviors, radiation protection and safe care, basic problem-solving techniques and equipment use as the student begins to employ the imaging process to perform diagnostic procedures. Students are expected to progress toward integration of fundamental imaging concepts. Required objectives and competencies will be completed through structured sequential assignments at designated clinical facilities. Prerequisite: RAD 101, 110, 115.

RAD 140: Radiation Physics
Credits: 4 (4 Class) This course is designed to provide the student with a base of knowledge from which practicing radiographers can make informed decisions about technical factors and diagnostic image quality. Included will be concepts of the science and technology of imaging, basic concepts of mathematics, fundamentals of physics, the atom, electromagnetism and the X-ray imaging system. Additionally, this course provides an in-depth study of X-ray production, the X-ray tube and the X-ray emission process. Prerequisite: RAD 101, 110, BIO 168, HLC 102, MAT 101; Co-requisite: RAD 140.

RAD 150: Applied Radiography III
Credits: 3 (3 Class) This is a theory course designed to focus on radiographic procedure methods for radiography of the skull and of the axial and appendicular skeleton and the body systems as it relates to patients across the lifespan. The student will be introduced to more advanced imaging such as arteriography, surgical imaging, and computed tomography. The basic phlebotomy unit prepares the student to properly perform blood collection in a professional manner with emphasis on safety, quality specimen collection and customer service. Prerequisites: RAD 101, 110, 130, 140, BIO 168, BIO 169, MAT 101, HLC 102; Co-requisites: RAD 160.

RAD 155: Practicum Education II
Credits: 3 (3 Practicum) Emphasis is placed upon the enhancement of critical thinking problem-solving skills as the student continues to develop and demonstrate competency in the performance of diagnostic imaging procedures. Learning objectives and remaining competencies will be completed through structured sequential assignments at designated clinical facilities. Prerequisites: RAD 101, 110, 115, 130, 135, 140.

RAD: 160 Imaging I
Credits: 2 (2 Class) This course is designed to provide the student with a base of knowledge from which practicing radiographers can make informed decisions about technical factors and diagnostic image quality. It provides an in-depth study of X-ray production and X-ray interaction with matter. In addition, photographic and geometric properties of images will be studied as well as the effects of scatter radiation. Lab sessions will be incorporated into the course to emphasize the components of the lecture material. Prerequisite: RAD 101, 110, 130, 140. Co-requisite: RAD 150.

RAD 210: Applied Radiography IV
Credits: 3 (3 Class) This is a theory course which introduces the student to basic pathophysiology and the radiographic manifestation of disease. Students will continue to develop and demonstrate an increased degree of competence in their performance of the skills related to diagnostic imaging. Prerequisites: RAD 101, 110, 130, 140, 150, 160. Co-requisites: RAD 220.

RAD 215: Practicum Education III
Credits: 4 (4 Practicum) This course is a continuation of Radiologic Technology Practicum II Emphasis will be placed upon the enhancement of image production and evaluation skills, independent judgment and decision-making and the performance of more complex imaging procedures such as computed tomography and pediatric imaging. Continued practice opportunities and the demonstration of skills typical of entry-level practitioners is also emphasized. Learning objectives and remaining competencies will be completed through structured sequential assignments at designated clinical facilities. Prerequisites: RAD 101, 110, 115, 130, 135, 140, 150, 155, 160.

RAD 220: Imaging II
Credits: 4 (3 Class, 1 Lab) This course is designed to build on the student's knowledge of the principles and procedures presented in RAD 140 and RAD 160. An in-depth study of electronic equipment used in radiography and fluoroscopy, image receptors, digital radiography and fluoroscopy, fluoroscopy equipment, quality assurance and quality control factors are presented. Prerequisites: RAD 101, 110, 130, 140, 150, 160. Co-requisite: RAD 210.

RAD 230: Applied Radiography V
Credits: 3 (3 Class) This course is designed to enhance expertise in all radiographic imaging procedures, patient care, phlebotomy, professional development, radiation protection, and image production and evaluation. Prerequisites: RAD 101, 110, 130, 140, 150, 160, 210, 220. Co-requisite: RAD 240.

RAD 235: Practicum Education IV
Credits: 4 (4 Practicum) This course is a continuation of Radiologic Technology Practicum III. Emphasis will be placed upon competency demonstration in the delivery of more complex imaging procedures, critical thinking and the successful integration of didactic and clinical components required for certification. Continued practice opportunities and the demonstration of skills typical of entry-level practitioners is also emphasized. Learning objectives and remaining competencies will be completed through structured sequential assignments at designated clinical facilities. Prerequisites: RAD 101, 110, 115, 130, 135, 140, 150, 155, 160, 210, 215, 220.

RAD 240: Radiation Protection
Credits: 4 (4 Class) This course is designed to give the student an understanding of the essential information on radiation protection and the biological effects of ionizing radiation. Building from basic to more complex concepts, this course will cover radiation physics, cell structure, effects of radiation on humans at the cellular and systemic levels, regulatory and advisory limits for human exposure to radiation and the implementation of patient and personnel radiation protection practices. Prerequisites: RAD 101, 110, 130, 140, 150, 160, 210, 220.

3.2 GENERAL EDUCATION COURSE DESCRIPTIONS

BIO 168: Human Anatomy and Physiology I
Credits: 4 (3 Class, 1 Lab) A study of the structure and function of the human body approached from a cellular and system level. Cells, tissues, integument, skeletal system, muscular system, nervous system and special senses are included. This general studies class fulfills a natural sciences/mathematics requirement for students enrolled in a degree program. Prerequisite: One unit of high school biology.

BIO 169: Human Anatomy and Physiology II
Credits: 4 (3 Class, 1 Lab) A continuation of BIO 101. The endocrine, cardiovascular, lymphatic/immune, respiratory, digestive, urinary and reproductive systems are included, as well as metabolism and fluid and electrolyte balance. This general studies class fulfills a natural sciences/mathematics requirement for students enrolled in a degree program. Prerequisite: BIO 168.

ENG 101: English Composition
Credits: 3 (3 Class) This course is designed to teach clear, purposeful, effective writing which emphasizes composition in various forms, for different purposes and for various audiences.

HLC 102: Medical Terminology
Credits: 2 (2 Class) This course is designed to provide a framework for building a medical vocabulary using an applied approach. Emphasis is on understanding basic medical terms and how they are used in documenting and reporting patient care procedures.

MAT 143: Quantitative Literacy
Credits: 3 (3 Class) This course is designed to engage students in complex and realistic situations involving the mathematical phenomena of quantity, change and relationship, and uncertainty through

project- and activity-based assessment. Emphasis is placed on authentic contexts which will introduce the concepts of numeracy, proportional reasoning, dimensional analysis, rates of growth, personal finance, consumer statistics, practical probabilities, and mathematics for citizenship. Upon completion, students should be able to utilize quantitative information as consumers and to make personal, professional, and civic decisions by decoding, interpreting, using, and communicating quantitative information found in modern media and encountered in everyday life.

COM 120: Interpersonal Communication
Credits: (3 Class) This course introduces the practices and principles of interpersonal communication in both dyadic and group settings. Emphasis is placed on the communication process, perception, listening, self-disclosure, speech apprehension, ethics, nonverbal communication, conflict, power, and dysfunctional communication relationships. Upon completion, students should be able to demonstrate interpersonal communication skills, apply basic principles of group discussion, and manage conflict in interpersonal communication situations.

HUM ###: Humanities Course
Credits: 3 (3 Class)

SOC SCI ###: Social Science Course
Credits: 3 (3 Class)

Using "buckets" of humanities and social science courses, rather than specified lists, provides greater flexibility and personalization for students. Students can choose courses that align with their interests and academic strengths, fostering engagement and intellectual curiosity. This approach encourages exploration across disciplines, promoting critical thinking and a holistic understanding of complex issues. Buckets also adapt to evolving course offerings, eliminating the need for frequent revisions. For students with prior college experience, the broader categories allow greater flexibility for transfer credits to fulfill general education requirements, potentially creating a shorter and more efficient pathway to degree completion. By offering broad categories, this system supports both academic breadth and the freedom to tailor educational experiences to individual needs.

3.3 COMPENTENCY-BASED DEVELOPMENT

The Radiologic Technology curriculum is founded on principles of Competency-Based Education (CBE) and designed to develop knowledge, skills, and attitudes. The educational and clinical experiences are directed toward preparing individuals to perform pre-specified tasks of an occupation or profession under “real world conditions” and to perform these tasks at a level of accuracy and speed required of radiographers on the job. The curriculum is designed to allow students to achieve competence in the responsibilities of the profession before leaving the education program. Radiologic Technology courses and Clinical experiences are arranged in a sequential manner and proceed to a new experience only when the student has achieved the specified level of competence in the previous task/course. Continuous evaluation and reinforcement of student performance is critical in CBE. This means that the student will perform the task or procedure under direct supervision of the educator/technologist. During each step, the student’s ability and performance are evaluated.

3.4 ACADEMIC GRADING

At the end of each Radiologic Technology course for which a student is registered, the student will receive a final grade. Final grades for the Radiologic Technology Curriculum coursework will be based on one hundred percent (100%) and will be determined as follows:

Didactic Course Grading Scale	Definition	Quality Points
A = 94 - 100 %	Superior	4
B = 87 - 93 %	Commendable	3
C = 80 - 86 %	Satisfactory	2
D = Below 80 %	Failing	0

RAD 115, RAD 135 Clinical Points	Letter Grade	Percentage
425-450	A	94-100
394-424	B	87-93
358-393	C	80-86
<357	D	79 and below

RAD 155, RAD 215, RAD 235 Clinical Points	Letter Grade	Percentage
561-600	A	94-100
519-560	B	87-93
477-518	C	80-86
<476	D	79 and below

3.5 ACADEMIC PROGRESSION IN RADIOLOGIC TECHNOLOGY

For students enrolled in Radiologic Technology (RAD), numerical grades below 80% (C) in Radiologic Technology (RAD) and 70% (C) in all other required courses are considered unsatisfactory attainment of course competency. In these instances, students will not progress in the program. Students who achieve a minimum of 80% (C) overall competency for each Radiologic Technology (RAD) course will be eligible to progress in the Radiologic Technology

program. Numerical grades below 80% (C) in Radiologic Technology (RAD) courses are considered unsatisfactory attainment of course competencies and will result in failure to progress in the program.

The program provides clear guidelines for progression in the Radiologic Technology program. Refer to the Administrative Policy VII to review the program's progression policy.

SECTION 4: POLICIES

4.0 RADIOLOGIC TECHNOLOGY PROGRAM POLICIES

Refer to the Radiologic Technology Program page on Canvas:
https://carolinascollege.instructure.com/courses/238

4.1 CAROLINAS COLLEGE POLICIES

Carolinas College Policies are available for review online. The Radiologic Technology program will adhere to the guidelines set forth by Carolinas College policies and procedures. The list of policies below demonstrates a sample of the policies available on the college website. Use the following link to access the entire list of collegewide policies.
https://atriumhealth.org/education/carolinas-college-of-health-sciences/about-us/policies-and-procedures

- Academic Integrity
- Clinical Access and Eligibility
- Dismissal
- Employment/Non-Employment of Students During Clinical Experiences
- Unsafe Clinical Practice
- Withdrawal-Leave of Absence (W-LOA)
- Community Standards
- Complaints and Academic Appeals
- Sexual Harassment (Title IX)