

Grayson College Course Catalog

Overview - Radiology Technology

The Radiography program allows students to participate in classroom instruction, laboratory demonstration and practice and perform radiographic procedures, and clinical experiences.

The program is recognized by the American Registry of Radiologic Technologists. Following program completion, the graduate is eligible to take the American Registry of Radiologic Technologists Examination (ARRT) to become a Registered Radiologic Technologist. Upon becoming ARRT (R), the graduate automatically qualifies to apply to be a Texas Certified Medical Radiologic Technologist. The GC program will assist all graduating students with the application processes for the ARRT Board Exam and the Texas MRT Certification.

Important Information for Applicants

In order to accomplish the objectives of this program, the student must be able to meet the Occupational Performance Requirements of Radiologic Technologists. In order to accomplish the objectives of the Radiography program, students must have:

- Visual acuity, with corrective lenses to identify cyanosis, absence of respiratory movement in patients, and to read small print on medication containers, physicians' orders, monitors, gauges, and equipment calibrations.
- Hearing ability, with auditory aids to understand the normal speaking voice without viewing the speaker's face and to hear monitor alarms, emergency signals, call bells, and stethoscope sounds originating from a patient's blood vessels, heart, lung, and abdomen.
- Physical ability to: Stand and walk for prolonged periods of time; perform cardiopulmonary resuscitation; lift patients to move onto and off of the radiographic table; lift and manipulate patients in the radiographic room as well as in hospital beds for proper placement of radiographic film holders; move from room to room, maneuvering in limited spaces and move, push, maneuver heavy, mobile radiographic machines into and out of patient rooms, surgery, intensive care units, and all other patient areas.
- Strength to lift approximately a minimum of 30 lbs. and walk a minimum distance of approximately 30 feet.
- Shoulder range of motion to reach up, push, pull, and maneuver radiographic equipment with overhead suspension and manually position, tilt, and angle radiographic tube housings in accurate relationship to the patients and image receptors.
- Speaking ability to communicate effectively in verbal and written form.
- Ability to speak clearly and succinctly when explaining procedures, describing patient conditions, and giving directions to the patient.
- Fine motor skills to write legibly and correctly in the legal documentation of radiographic procedures and patient conditions/occurrences.
- Manual dexterity to use sterile techniques, to insert catheters, and to prepare and administer contrast media and medications (IV and IM) as directed by a physician.
- Ability to function safely and accurately under stressful conditions and to be able to quickly adapt to rapidly changing clinical situations involving patient care

Eligibility for Licensure

The American Registry of Radiologic Technologists requires that all candidates be in accordance with very strict guidelines. In an effort to establish, secure, and maintain an improved professional reputation for Radiographers, within the healthcare environment, the ARRT demands close adherence to strict ethical standards. Radiography School Applicants with a criminal record are encouraged to request a pre-application review of eligibility to be conducted by the ARRT to obtain a ruling on his/her eligibility for certification and registration. The pre-application form can be found at the ARRT website, www.arrt.org. For ARRT purposes any of the following situations constitute the same as a conviction:

- A charge or conviction for an offense which is classified as a misdemeanor or felony,
- A plea of guilty to an offense which is classified as a misdemeanor or felony
- A plea of nolo contendere (no contest) to an offense which is classified as a misdemeanor or felony
- Any situation in which the result is a deferred or withheld adjudication
- Any suspended or withheld sentence.

Admission Criteria and Selection

Applications for admission to the Radiologic Technology program, along with GED or high school transcripts and transcripts from each college or university attended, are due in the Health Sciences Office by May 1. The applicant is responsible for submitting all the required transcripts and other documentation to the Radiology School. Documents submitted after 4 p.m. on May 1 will be filed for application to the next school year. Applicants are required to take the HESI admission test related to vocabulary skill, reading comprehension, math and anatomy and physiology, and achieve a passing score of 75% or greater in each category.

Pre-Acceptance Requirements:

Before application files can be evaluated, the following documentation must be in the applicant's folder no later than May 1 of the year for which you are applying:

- Copy of High School Diploma or passing GED Scores
- Application and acceptance to Grayson College
- Completed GC Health Sciences application
- Student letter of intent
- Official transcripts
- Admission test scores
- Minimum GPA of 2.5 with a grade of "C" or higher in all required courses
- Completion of all prerequisite coursework including Anatomy & Physiology I and II, General Psychology, English Composition I, and a Fine Arts / Humanities Core course
- Documentation of having completed all required immunizations
- Record of physician's pre-entrance medical statement
- Proof of mandatory attendance of Radiology Information Meeting

Applicant files that are complete with the items listed above will then be evaluated for documentation of the following factors in this sequential order of priority:

- Grade point average stated on all transcripts
- Grades received for each science, medical, or other courses that may be relative to healthcare services
- Technical, trade, or military training received
- Resume/work history/life experiences as they relate to basic knowledge of the radiology field, healthcare services, and/or work ethics
- Three (3) letters of reference (Professional or educational only)
- Applicant's written statement of "Why I have chosen Radiologic Technology as a career." Indicating awareness of the Radiography field.

All applicant transcripts are rated, using the following point system:

- 3 points for a final grade of "A" in theory and/or lab course
- 2 points for a final grade of "B" in theory and/or lab course
- 1 point for a final grade of "C" in theory and/or lab course

Points are given for the score achieved on the admission test:

- 3 points for a test score of 90-100
- 2 points for a test score of 80-89
- 1 point for a test score of 75-79

Consideration is also given to documentation of:

- Applicant's resume/work history
- Any volunteer work in radiology or other healthcare field
- Trade school and/or technical education completed.
- Certifications, and/or licensure earned that may enhance the applicant's skills in Radiography.

Non-academic experiences/attributes are quantified, using the following point system:

- 3 points for high significance / relativity to radiology field
- 2 points for medium significance / relativity to radiology field
- 1 point for slight significance / relativity to radiology field

Prior to clinical course rotations, students must pass a drug screen test and criminal background check scheduled through a GC approved company.

Candidates will be notified in writing via US mail of acceptance or non-acceptance into the program.

Required Immunizations

All students must submit a copy of the following immunizations with a valid stamp or signature, signed statement from a physician, or lab report indicating serologic immunity. Please note that some of these immunizations take up to six months to complete. Immunizations must be started in time to complete the series before the FIRST DAY OF CLASS. If unable to complete the series before beginning of class, the applicant is not eligible for admission.

1. Tetanus / Diphtheria / Pertussis (Tdap) - One dose of the Tetanus / diphtheria / pertussis (Tdap) immunization within the last 10 years.

2. Measles, Mumps, Rubella (MMR) (Immunization or blood test proving immunity) - If born after January 1, 1957, must have proof of two doses of the MMR vaccine administered on or after the 1st birthday and at least 30 days apart – or – proof of serologic immunity.
3. Varicella (Chickenpox) (Immunization or blood test proving immunity) - Series of two Varicella vaccines at least 30 days apart – or – proof of serologic immunity.
4. Hepatitis B (Immunization or blood test proving immunity - Series of three Hepatitis B vaccines – or proof of serologic immunity)
5. Influenza Vaccine - Annual influenza immunization as recommended by the CDC in the fall of each year.

Due to compliance with clinical facility requirements and the Texas Department of Health recommendations, GC Health Science programs may not waiver immunization requirements for any reason. If immunizations are not complete, application to the program must be delayed.

Copies of records from physician offices, public health department, public schools, other colleges and the military are acceptable. Students should provide a copy of the records. Please do not turn in the originals.

Application Information

Deadline: May 1

Packet:

- Packets are only available by pickup at the Mandatory Information Session
- When: 3rd Wednesday of every month at 1pm
- Where: Health Science 200 (except August & December)

AAS Degree Requirements

Associate of Applied Science Degree - Radiologic Technology

Subject	Semester Hours
PREREQUISITES	
BIOL 2301 (Anatomy and Physiology I Lecture)	3
BIOL 2101 (Anatomy and Physiology I Laboratory)	1
PSYC 2301 (General Psychology)	3
*Huma / Arts Core	3
	10
PREREQUISITES	
BIOL 2302 (Anatomy and Physiology II Lecture)	3
BIOL 2102 (Anatomy and Physiology II Laboratory)	1
ENGL 1301 (Composition I)	3
	7
RADR 1301 (Introduction to Radiography)	3
RADR 1303 (Patient Care)	3
RADR 1311 (Basic Radiographic Procedures)	3
RADR 1160 (Clinical I)	1
RADR 1213 (Principles of Radiographic Imaging I)	2
RADR 2401 (Intermediate Radiographic Procedures)	4
RADR 2313 (Radiation Biology and Protection)	3
RADR 1361 (Clinical II)	3
RADR 1262 (Clinical III)	2
RADR 2217 (Radiographic Pathology)	2
RADR 2305 (Principles of Radiographic Imaging II)	3
RADR 2463 (Clinical IV)	4
RADR 2309 (Radiographic Imaging Equipment)	3
RADR 2233 (Advanced Medical Imaging)	2
RADR 2235 (Radiologic Technology Seminar)	2

RADR 2431 (Advanced Radiographic Procedures)	4
RADR 2367 (Practicum)	3
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Capstone Requirement: All students must complete the capstone requirement: successful completion of RADR 2235 prior to graduation.

*Please review your Student Planner or contact your Student Success Coach/Faculty Advisor to review which courses may be used to fill this degree requirement.

RADR 1160 - Clinical I

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

Grade Basis: L

Credit hours: 1.0

Lab hours: 4.0

Restrictions:

- Concurrent enrollment: RADR 1301, 1303, 1311.
- Acceptable scores in college readiness exam and Program Entrance Exam, completion of the required 16 hrs of academic prerequisite courses, attendance at a program information meeting; pre-entrance health exam, documentation of required immunizations, pass drug screen, pass criminal background check, documentation of CPR for Healthcare Providers from American Heart Association.

RADR 1213 - Principles of Radiographic Imaging I.

An introduction to radiographic image qualities and the effects of exposure variables upon these qualities.

Grade Basis: L

Credit hours: 2.0

Lecture hours: 2.0

Restrictions:

- Concurrent Enrollment: RADR 2401, 2313, 1361.
- Completion of RADR 1301, 1303, 1311 and 1160 with a C or better

RADR 1262 - Clinical III

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

Grade Basis: L

Credit hours: 2.0

Lab hours: 12.0

Restrictions:

- Huma / Fine Arts Core, RADR 1301, 1303, 1311, 1160, 1213, 2401, 2313, 1361.
- Must be taken in sequence as listed in degree plan.

RADR 1301 - Introduction to Radiography

An introduction to radiation protection, professional ethics, darkroom procedures, medical terminology, prime exposure factors, technical factors of film quality and image receptors.

Grade Basis: L

Credit hours: 3.0

Lecture hours: 3.0

Restrictions:

- Concurrent Enrollment: RADR 1303, 1311, 1160.

- Acceptable scores in college readiness exam and Program Entrance Exam, completion of the required 16 hours of academic prerequisite courses, attendance at a program information meeting; pre-entrance health exam, documentation of required immunizations, pass drug screen, pass criminal background check, documentation of CPR for Healthcare Providers from American Heart Association.
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RADR 1303 - Patient Care

An introduction in patient assessment, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and basic pharmacology.

Grade Basis: L

Credit hours: 3.0

Lecture hours: 3.0

Restrictions:

- Concurrent Enrollment: RADR 1301, 1311, 1160.
 - Acceptable scores in college readiness exam and Program Entrance Exam, completion of the required 16 hrs of academic prerequisite courses, attendance at a program information meeting; pre-entrance health exam, documentation of required immunizations, pass drug screen, pass criminal background check, documentation of CPR for Healthcare Providers from American Heart Association.
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RADR 1311 - Basic Radiographic Procedures.

An introduction to radiographic positioning terminology, the proper manipulation of equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of basic anatomy.

Grade Basis: L

Credit hours: 3.0

Lecture hours: 2.0

Lab hours: 3.0

Restrictions:

- Concurrent Enrollment: RADR 1301, 1303, 1160.
 - Acceptable scores in college readiness exam and Program Entrance Exam, completion of the required 16 hrs of academic pre-requisite courses, attendance at a program information meeting; pre-entrance health exam, documentation of required immunizations, pass drug screen, pass criminal background check, documentation of CPR for Health Care Providers from American Heart Association.
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RADR 1361 - Clinical II

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

Grade Basis: L

Credit hours: 3.0

Lab hours: 16.0

Restrictions:

- Concurrent Enrollment: RADR 1213, 2313, 2401
 - Completion of RADR 1301, 1303, 1311 and 1160 with a C or better
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RADR 2217 - Radiographic Pathology

A presentation of the disease process and common diseases and their appearance on medical images.

Grade Basis: L

Credit hours: 2.0

Lecture hours: 2.0

Restrictions:

- Concurrent Enrollment: RADR 2305, 2463, 2309.
 - Completion of RADR 1301, 1303, 1311, 1160, 1213, 2401, 2313 and 1361 with a C or better
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RADR 2233 - Advanced Medical Imaging

An exploration of specialized imaging modalities.

Grade Basis: L

Credit hours: 2.0

Lecture hours: 2.0

Restrictions:

- Concurrent Enrollment: RADR 2235, 2431, 2367.
 - Completion of RADR 1301, 1303, 1311, 1160, 1213, 2401, 2313 and 1361, 2217, 2305, 2309, and 2463 with a C or better
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RADR 2235 - Radiologic Technology Seminar

A capstone course focusing on the synthesis of professional knowledge, skills, and attitudes in preparation for professional employment and lifelong learning.

Grade Basis: L

Credit hours: 2.0

Lecture hours: 2.0

Restrictions:

- Concurrent Enrollment: RADR 2233, 2431, 2367.
 - Completion of RADR 1301, 1303, 1311, 1160, 1213, 2401, 2313 and 1361, 2217, 2305, 2309, and 2463 with a C or better
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RADR 2305 - Principles of Radiographic Imaging II

A continuation of the study of radiographic imaging technique formulation, image quality assurance, and the synthesis of all variables in image production. Lab is included.

Grade Basis: L

Credit hours: 3.0

Lecture hours: 3.0

Lab hours: 1.0

Restrictions:

- Concurrent Enrollment: RADR 2217, 2463, 2309
 - Completion of RADR 1301, 1303, 1311, 1160, 1213, 2401, 2313 and 1361 with a C or better
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RADR 2309 - Radiographic Imaging Equipment

A study of the radiographic equipment, components, accessories and the physics that apply to x-ray production. The course includes the basic x-ray circuits, and the relationship of equipment components to the outcome of the imaging process.

Grade Basis: L

Credit hours: 3.0

Lecture hours: 3.0

Restrictions:

- Concurrent Enrollment: RADR 2217, 2305, 2463.
 - Completion of RADR 1301, 1303, 1311, 1160, 1213, 2401, 2313 and 1361 with a C or better
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RADR 2313 - Radiation Biology and Protection

A study of the effects of radiation exposure on biological systems, typical medical exposure levels, methods for measuring and monitoring radiation, and methods for protecting personnel and patients from excessive exposure.

Grade Basis: L

Credit hours: 3.0

Lecture hours: 3.0

Restrictions:

- Concurrent Enrollment: RADR 1213, 2401, 1361.
 - Completion of RADR 1301, 1303, 1311 and 1160 with a C or better
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RADR 2367 - Practicum

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

Grade Basis: L

Credit hours: 3.0

Lab hours: 24.0

Restrictions:

- Concurrent Enrollment: RADR 2233, 2235, 2431.
 - Completion of RADR 1301, 1303, 1311, 1160, 1213, 2401, 2313 and 1361, 2217, 2305, 2309, and 2463 with a C or better
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RADR 2401 - Intermediate Radiographic Procedures

A continuation of the study of the proper manipulation of radiographic equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of anatomy.

Grade Basis: L

Credit hours: 4.0

Lecture hours: 2.0

Lab hours: 4.0

Restrictions:

- Concurrent Enrollment: RADR 1213, 2313, 1361.
 - Completion of RADR 1301, 1303, 1311 and 1160 with a C or better
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RADR 2431 - Advanced Radiographic Procedures

Continuation of positioning; alignment of the anatomical structure and equipment, evaluation of images for proper demonstration of anatomy and related pathology. Lab included.

Grade Basis: L

Credit hours: 4.0

Lecture hours: 3.0

Lab hours: 2.0

Restrictions:

- Concurrent Enrollment: RADR 2233, 2235, 2367.
 - Completion of RADR 1301, 1303, 1311, 1160, 1213, 2401, 2313 and 1361, 2217, 2305, 2309, and 2463 with a C or better
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RADR 2463 - RADIOLOGIC TECHNOLOGY Clinical IV

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

Grade Basis: L

Credit hours: 4.0

Lab hours: 24.0

Restrictions:

- Concurrent Enrollment: RADR 2217, 2305, 2309.
 - Completion of RADR 1301, 1303, 1311, 1160, 1213, 2401, 2313 and 1361 with a C or better
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Grayson College

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