

# RADIOLOGIC TECHNOLOGY (RTEC), AAS

At Dunwoody College of Technology, the Radiologic Technology program prepares graduates who oversee X-rays, CT scans, and other radiologic procedures. They also manage radiology support staff in hospitals, clinics, and specialized imaging centers.

Students learn to work directly with patients and physicians to create images of internal organs, bones, and tissues that are used to diagnose medical problems.

Working in both classroom and lab settings, students gain the skills to use the latest in imaging technologies, including digital X-rays and CT scans. They also complete rotations in clinical settings.

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

**Credential Earned:** AAS

**Length of Program:** 2 years (4 semesters + 2 summer sessions)

**Classes Offered:** Day

**Available Starts:** Fall Semester; Spring Semester

**Accreditation:** Joint Review Committee on Education in Radiologic Technology (JRCERT)

## Program Outcomes

- Explain the importance of patient interactions that include ethics, interpersonal communication, physical assistance and monitoring, medical emergencies, infection control and pharmacology in the field of medical imaging
- Explain how the principles of radiation physics and the biological aspects of radiation apply to patient safety
- Explain the various ways to minimize patient exposure to radiation
- Explain the various ways to minimize occupational exposure to radiation
- Compare how the various technical factors affecting radiographic quality to receptor exposure, contrast, spatial resolution and distortion
- Explain how the following concepts affect image production: technique charts, Automatic Exposure Control and Digital Imaging, Equipment
- Explain how equipment operation and quality assurance affects image production
- Apply knowledge of positioning, anatomy, procedure adaptation and evaluation of displayed anatomical structures to include; head, spine and pelvis procedures, thorax and abdomen procedures, and extremity procedures

## Degree Requirements

Code	Title	Credits
<b>General Requirements</b>		
BIOL1230	Anatomy	4
BIOL1310	Physiology I	2
BIOL1320	Physiology II	2
BIOL1400	Human Disease	4

Communications	3	
Humanities	3	
Social Sciences	3	
<b>Technical Requirements</b>		
RTEC1111	Introduction to Radiography	1
RTEC1121	Patient Care	1
RTEC1131	Radiographic Procedures I	2
RTEC1151	Clinical I	2
RTEC1200	Radiographic Procedures	1
RTEC1221	Radiographic Procedures II	2
RTEC1231	Radiographic Procedures III	2
RTEC1241	Clinical II	2
RTEC1251	Clinical III	2
RTEC1140	Medical Terminology	1
RTEC1210	Radiologic Exposure	1
RTEC1311	Radiographic Procedures IV	2
RTEC1321	Clinical IV	2
RTEC2110	Radiologic Science	1
RTEC2121	Advanced Imaging	1
RTEC2130	Clinical V	6
RTEC2200	Radiographic Clinicals	1
RTEC2221	Radiologic Topics I	3
RTEC2250	Clinical VI	3
RTEC2260	Clinical VII	3
RTEC2231	Radiologic Topics II	3
RTEC2320	Clinical VIII	3
<b>Total Credits</b>		<b>66</b>

## Courses

### Descriptions

#### RTEC1111 | Introduction to Radiography | Lecture (1 Credit)

Introduction to the profession of radiologic technology. An overview of the structure of the healthcare environment, imaging equipment, radiation protection, and surgery.

#### RTEC1121 | Patient Care | Lecture (1 Credit)

Examine the basic concepts of patient care. Routine and emergency patient care procedures are explained, as well as infection control procedures utilizing standard precautions.

#### RTEC1131 | Radiographic Procedures I | Lecture (2 Credits)

Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, routine projections of the abdomen, upper and lower extremities, and the shoulder girdle.

#### RTEC1151 | Clinical I | Clinical (2 Credits)

Provides opportunities to apply basic theoretical principles of radiography and patient care to practical experience in an imaging department. Observe and participate in radiographic procedures in a hospital or clinical setting. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

#### RTEC1200 | Radiographic Procedures | Lecture (1 Credit)

Develop the knowledge required to perform radiographic procedures.

**RTEC1221 | Radiographic Procedures II | Lecture (2 Credits)**

Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, routine projections of the pelvis and femur, as well as fluoroscopic procedures.

**RTEC1231 | Radiographic Procedures III | Lecture (2 Credits)**

Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, and routine projections of the spine and the bony thorax.

**RTEC1241 | Clinical II | Clinical (2 Credits)**

Continue development of skills required to become a radiologic technologist. Participate in routine radiographic procedures and observe in many of the specialty areas of a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

**RTEC1251 | Clinical III | Clinical (2 Credits)**

Continue development of skills required to become a radiologic technologist. Participate in routine radiographic procedures and observe in many of the specialty areas of a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

**RTEC1140 | Medical Terminology | Lecture (1 Credit)**

Develop a medical vocabulary. Skills in spelling, pronunciation, and defining medical terms is emphasized.

**RTEC1210 | Radiologic Exposure | Lecture (1 Credit)**

Examine the factors that govern and influence the production of the radiographic image, includes exposure calculations.

**RTEC1311 | Radiographic Procedures IV | Lecture (2 Credits)**

Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, and routine projections of the cranium, facial bones, sinuses and the genitourinary. Venipuncture is introduced.

**RTEC1321 | Clinical IV | Clinical (2 Credits)**

Continue development of skills required to become a radiologic technologist. Participate in routine radiographic procedures and observe in many of the specialty areas of a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

**RTEC2110 | Radiologic Science | Lecture (1 Credit)**

Concepts of basic radiographic physics and the basics of x-ray generating equipment.

**Prerequisite(s):** RTEC1210

**RTEC2121 | Advanced Imaging | Lecture (1 Credit)**

Equipment routinely utilized to produce diagnostic images, as well as various recording media and techniques. Topics include: Venipuncture; Image production in CT, MRI, IR, and other imaging modalities; special imaging considerations for geriatric, pediatric, trauma, and mobile imaging procedures; and sectional anatomy of the head, thorax, and abdomen.

**Prerequisite(s):** RTEC1310 Or RTEC1311

**RTEC2130 | Clinical V | Clinical (6 Credits)**

Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Topics include: common fluoroscopic, surgery, and portable radiography procedures. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

**RTEC2200 | Radiographic Clinicals | Clinical (1 Credit)**

Apply the concepts learned in the classroom/lab in a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

**RTEC2221 | Radiologic Topics I | Lecture (3 Credits)**

Prepare for the national certification examination with a review of basic knowledge from previous courses. Examine a variety of topics and practice for the registry exam with frequent testing.

**RTEC2250 | Clinical VI | Clinical (3 Credits)**

Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Topics include: advanced radiographic anatomy; equipment utilization; exposure techniques; sterile techniques; participation in and/or observation of angiographic, interventional and specialty rotations including MRI and CT. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

**RTEC2260 | Clinical VII | Clinical (3 Credits)**

Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Topics include: advanced radiographic anatomy; equipment utilization; exposure techniques; sterile techniques; participation in and/or observation of angiographic, interventional and specialty rotations including MRI and CT. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

**RTEC2231 | Radiologic Topics II | Lecture (3 Credits)**

Prepare for the national certification examination with a review of basic knowledge from previous courses. Examine a variety of topics and practice for the registry exam with frequent testing.

**RTEC2320 | Clinical VIII | Clinical (3 Credits)**

Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Includes participation in and/or observation of routine and special radiographic procedures. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

**BIOL1230 | Anatomy | Lecture/Laboratory (4 Credits)**

Analyze the structure of the human body, molecular, cellular to organism level. Examine cell biology, integumentary, muscular, skeletal, neurological, digestive, respiratory, urinary, cardiovascular, endocrine, lymphatic, and reproductive body systems and the correlation/integration of the various systems to construct the human organism.

**General Education:** Natural Sciences

**BIOL1310 | Physiology I | Lecture/Laboratory (2 Credits)**

Analyze the functioning of the human body, molecular, cellular to organism level. Examine body systems, such as cell biology, muscular, skeletal, neurological, digestive and respiratory and the correlation/integration of the various systems in impacting the functioning of the human organism.

**Prerequisite(s):** BIOL1230

**General Education:** Natural Sciences

**BIOL1320 | Physiology II | Lecture/Laboratory (2 Credits)**

Analyze the functioning of the human body, molecular, cellular to organism level. Examine body systems such as urinary, body defenses, cardiovascular, endocrine, lymphatic, and reproductive and the correlation/integration of the various systems in impacting the functioning of the human organism.

**Prerequisite(s):** BIOL1310

**General Education:** Natural Sciences

**BIOL1400 | Human Disease | Lecture/Laboratory (4 Credits)**

Analysis of the disease conditions affecting the human body, including their pathological origin, signs and symptoms, pathological process, diagnostics, and treatment modalities.

**Prerequisite(s):** BIOL1320

**General Education:** Natural Sciences