Medical Radiography

Medical Radiography

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http://dixie.edu/health/radiography/

To find faculty & staff phone numbers and email addresses, please consult the University Directory (http://www.dixie.edu/directory/directory.php).

Program Director
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Patricia Wintch RDH, MSDH

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Program Description

Medical radiographers or radiologic technologists are allied health professionals who use their patient care and technical skills to perform diagnostic procedures using ionizing radiation. Procedures include exams of the central nervous, gastrointestinal, skeletal, respiratory, and urinary systems and may be performed in the radiology department, emergency room, or the surgical suite.

Professional competence requires radiographers to apply their knowledge in anatomy, pathology, patient positioning, radiation protection, image production, and evaluation. Employment opportunities include hospitals, clinics, physicians’ offices, outpatient imaging centers, government agencies, and industry. In addition, registered radiographers may pursue additional education in advanced modalities such as sonography, nuclear medicine, interventional radiography, radiologist assistant, radiation therapy, CT, MRI, and mammography.

It is the program’s philosophy that to develop professional, competent and compassionate medical radiographers requires a quality education founded on a well-rounded curriculum, including technical skills, critical thinking, and ethical and responsible behavior. Students in the program will:

1. Develop competence in clinical performance
2. Acquire critical thinking and problem-solving skills
3. Determine the importance of professional and ethical conduct
4. Develop effective communication skill
5. The program will provide the community with a skilled entry-level radiologic technology graduate.

This is a two-year, full-time program that prepares students to enter the health care profession as a competent entry-level radiographer. Professional competence is achieved through a blend of theoretical and practical coursework which includes didactic and clinical experience at cooperating hospitals, clinics, and doctors’ offices. It consists of five semesters of academic studies with coordinated practice in area imaging departments. Clinical rotation shifts vary anywhere from 6:00 a.m. to 11 p.m. Saturday rotations will be required in the third, fourth, and fifth semesters.

Facilities

The Medical Radiography Program is located in the Russell Taylor Health Science Center and has 6,000 square feet of dedicated classroom and lab space. Lab equipment includes two stationary GE Proteus units, a mobile x-ray unit, C-arm and a Konica CR reader with PACS. This equipment is, in most cases, consistent with equipment used at the clinical sites allowing for easier transfer of skills and knowledge.

Licensure

Upon successful completion of the program, the student will be awarded an Associate of Applied Science Degree in Medical Radiography. The graduate will be eligible to apply to sit for the American Registry of Radiologic Technologists (ARRT). After passing the national examination, individuals may apply for licensure for the State of Utah through the Division of Occupational and Professional Licensing.

Accreditation

The DSU Medical Radiography Program is accredited through the Joint Review Committee on Education in Radiologic Technology (JRCERT), the national accrediting agency for radiography programs which assures that programs follow standards to maintain academic excellence. JRCERT may be contacted at:

Joint Review Committee on Education in Radiologic Technology
20 N. Wacker Dr. Suite 2850
Chicago IL 60606-3182
(312) 704-5300
www.jrcert.org
Course Prefixes

• RADT

Degrees & Certificates

• Associate of Applied Science in Medical Radiography (catalog.dixie.edu/programs/medicalradiography/associate_of_applied_science_in_medical_radiography)

Admission to the Medical Radiography Program

To be considered for admission to the Medical Radiography program, an applicant must first be accepted as a Dixie State University student. The applicant must also complete a separate application to the Medical Radiography program. Applicants will be evaluated on their academic achievement including overall GPA, prerequisite course grades and work experience or volunteer hours in a healthcare setting that has direct contact with patients. The top 20-25 highest-scoring applicants will be selected for interviews, which will be conducted by the Medical Radiography Selection Committee. Of the applicants interviewed, the top twelve to fourteen highest-scoring students will be selected for admission into the Medical Radiography program with up to five additional students to be selected as alternates. The number of students selected is dependent on the number of clinical spots available. The deadline for applications is on the department website. Incomplete applications will not be reviewed or considered for admission. Applications and further information is available at http://www.dixie.edu/health/radiography/admissions.php.

Complete applications must include official transcripts listing final grades in the following courses: BIOL 2320, BIOL 2325, BIOL 2420, BIOL 2425, ENGL 1010, ENGL 2010, MATH 1030, 1040 or 1050, PSY 1010 or PSY 1100, RADT 1010 and either COMM 1020 or COMM 2110. Science courses must be taken within the past seven years (BIOL 2320/25 and BIOL 2420/25).

A crucial element for student success in a rigorous Medical Radiography program is the capability of academic achievement. A student’s history of academic performance is indicative of future academic achievement. The eligibility requirement for admission into the Dixie State University Medical Radiography Program is a cumulative GPA of 2.7 for all Medical Radiography prerequisite courses. Prerequisite and support courses for the program provide students with a solid foundation of knowledge and are essential for success in the program. All required prerequisite courses must be completed with at least a “C” grade or higher prior to submission of application.

Prerequisite Courses (required for admission):

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<thead>
<tr>
<th>Course</th>
<th>Description</th>
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<tbody>
<tr>
<td>BIOL 2320</td>
<td>Human Anatomy</td>
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<tr>
<td>BIOL 2325</td>
<td>and Human Anatomy Lab</td>
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<tr>
<td>BIOL 2420</td>
<td>Human Physiology</td>
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<tr>
<td>BIOL 2425</td>
<td>and Human Physiology Lab</td>
</tr>
<tr>
<td>ENGL 1010</td>
<td>Introduction to Writing</td>
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<tr>
<td>or ENGL 1010D</td>
<td>Introduction to Writing</td>
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<tr>
<td>ENGL 2010</td>
<td>Interm Writing Selected Topics:</td>
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<tr>
<td>MATH 1040</td>
<td>Introduction to Statistics (preferred)</td>
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<tr>
<td>or MATH 1030</td>
<td>Quantitative Reasoning</td>
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<tr>
<td>or MATH 1050</td>
<td>College Algebra / Pre-Calculus</td>
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<tr>
<td>PSY 1010</td>
<td>General Psychology</td>
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<tr>
<td>or PSY 1100</td>
<td>Human Development Through Lifespan</td>
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<tr>
<td>RADT 1010</td>
<td>Intro to Radiography</td>
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<tr>
<td>COMM 1020</td>
<td>Public Speaking</td>
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<tr>
<td>or COMM 2110</td>
<td>Interpersonal Communication</td>
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Career Information

Career Opportunities*

Medical radiographers or radiologic technologists work in healthcare facilities, with 59% employed in hospitals, 21% working in physicians’ offices, 8% employed in medical and diagnostic laboratories, and the other 4% in outpatient care and federal government jobs. MRI technicians also work in healthcare facilities, with 59% employed by hospitals, 20% by medical and diagnostic laboratories, and 14% by offices of physicians.

Job Outlook*

Employment of radiologic technologists is expected to grow by 9% between 2014 and 2024, and employment of MRI Technicians is expected to grow 10% over the same decade.
Salary Range

In May of 2015, the median annual salary for radiologic technologists was $56,670. The highest 10 percent earned more than $81,660 and the lowest 10 percent earned less than $38,110. For MRI technicians, the median annual wage was $67,720 in May 2015. The highest 10 percent earned more than $94,550 and the lowest earned less than $40,690.

* From the Occupational Outlook Handbook, 2015

Courses

RADT 1010. Intro to Radiography. 2 Hours.
Open to all students interested in medical radiography. Explores the field of radiography and its role in health care delivery. Covers fundamental concepts including medical terminology, radiation protection, ethics, career opportunities, professional development, and hospital operations. FA, SP.

RADT 1020. Radiographic Procedures I. 5 Hours.
First semester course. Instruction in how to perform radiographic procedures and identifying anatomy of the upper/lower extremities, chest, abdomen, bony thorax and pelvis with emphasis on radiation protection, surface landmarks and pathology. Image analysis is introduced. Course fee required. Prerequisites: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.

RADT 1030. Radiographic Imaging I. 3 Hours.
First semester course. Analysis of factors affecting image quality and application of radiographic principles using imaging devices such as image receptors, grids and beam limiting devices, processing procedures, as well as introduction of basic digital imaging concepts. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.

RADT 1040. Clinical Education I. 4 Hours.
First Semester Course. Students will apply theories and develop skills in a supervised setting through observation, assisting, and performing basic radiographic procedures on upper/lower extremities, chest, abdomen, pelvis and bony thorax. 180 clinical hours. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.

RADT 1050. Patient Care. 2 Hours.
First semester course. Introduces the role of the radiographer as a health care provider. Topics include patient communication and education, patient transfer, vital signs, infection control, oxygen, suction, age-specific needs and cultural diversity. Prerequisite: Acceptance into the Medical Radiography Program Taught in cohort rotation.

RADT 1120. Radiographic Procedures II. 4 Hours.
Second Semester Course. Instruction in performing radiographic procedures and identifying anatomy of the vertebral column, genitourinary, gastrointestinal and biliary systems, skull and facial bones, as well as advanced mobile and surgical procedures, composition and the use and effects of contrast media. Course fee required. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.

RADT 1140. Clinical Education II. 5 Hours.
Second Semester Course. Continuation of RADT 1040, providing students with the opportunity to apply theories and further develop technical skills with emphasis placed on vertebral column, biliary system, gastrointestinal and genitourinary procedures, skull and facial bones. Patient management specific to fluoroscopic and advanced radiographic procedures. 225 clinical hours. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.

RADT 1230. Radiographic Imaging II. 2 Hours.
Second Semester Course. Builds on theories and concepts introduced in RADT 1030, emphasizing quality assurance and quality control, digital and computed imaging components and processes and data and information management with PACS. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.

RADT 1240. Clinical Education III. 7 Hours.
Third semester course. Continuation of RADT 1140, providing students with the opportunity to apply theories and further develop technical skills. Students will gain experience in effective patient and time management specific to advanced radiographic procedures. 315 clinical hours. Course fee required. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.

RADT 1250. Advanced Patient Care. 2 Hours.
Second semester course. Instruction in advanced patient care skills, including pharmacology and contrast administration for medical imaging, medical ethics and law, and mobile and surgical radiography. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.

RADT 2030. Radiographic Physics. 3 Hours.
Fourth semester course. In depth analysis of electrical circuitry, transformers, and rectifiers as they relate to x-ray production, as well as construction and function of the x-ray tube, fluoroscopic systems, video systems, AEC, and digital imaging. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.

RADT 2040. Clinical Education IV. 7 Hours.
Fourth semester course. Continuation of RADT 1240 with emphasis on mastering basic procedures and attaining experience in advanced procedures with further awareness of radiation protection requirements. Students will rotate through advanced modality areas as assigned by Clinical Coordinator. 315 clinical hours. Course fee required. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.

RADT 3020. Advanced Medical Imaging. 3 Hours.
Fourth semester course. Introduces additional imaging modalities and radiation therapy, including interventional radiography, sonography, CT, MRI, mammography, nuclear medicine and basic sectional anatomy. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.
RADT 3150. Radiobiology and Protection. 3 Hours.
Fourth semester course. In depth analysis of ionizing radiation and its effects on matter, including early and late effects of radiation, dose limits, radiation monitoring, and limiting radiation exposure to patients and personnel. Prerequisite: Admission to DSU Medical Radiography program. Taught in cohort rotation.

RADT 3240. Clinical Education V. 7 Hours.
Fifth semester course. Continuation of RADT 2040 with emphasis on developing an autonomous approach to the diversity of clinical situations and successfully adapting to them. Extended advanced modality rotations may be arranged following established guidelines and at the discretion of the Clinical Coordinator. 315 clinical hours. Course fee required. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.

RADT 3260. Radiography Seminar. 3 Hours.
Fifth semester course. Capstone course that offers review and reflection on previous coursework, providing students with a meaningful approach to evaluate strengths and weaknesses and to prepare for credentialing exams and employment. Prerequisite: Admission to the Dixie State University Medical Radiography program. Taught in cohort rotation.