RDT RADIOLOGIC TECHNOLOGY

Courses

RDT.100 Introduction to Radiologic Technology  
3 3

This introductory course provides the student with general information about the profession of Radiologic Technology and introduces basic radiographic imaging principles and radiation protection. Special emphasis is also placed on medical ethics and professional conduct. Admission to the Radiologic Technology program is required to enroll in this course.

Offered: Spring
Prerequisites: Admission to Radiologic Technology program Take 1 group:,Take BIO.205 Minimum grade C or BIO.211, BIO.212 Minimum,grade C;
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS, and Certificates where applicable.
General Education – Not Applicable

RDT.101 Radiologic Technology Procedures 1  
2 2 3

This course is designed to provide a knowledge base necessary to perform standard radiographic procedures. Content includes basic anatomy and positioning for examinations of the chest and abdomen, safe and proper use of x-ray equipment, and correct methods of handling and processing radiographic images. Consideration will be given to the production of radiographs of optimal diagnostic quality. Laboratory experience will be used to complement the didactic portion of the course. Admission to the Radiologic Technology program is required to enroll in this course.

Offered: Summer
Prerequisites: Admission to the Radiologic Technology program Take 1 group:,Take BIO.205 Minimum grade C or BIO.211, BIO.
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS, and Certificates where applicable.
General Education – Not Applicable

RDT.110 Rad Tech Physics & Instrumentation 1  
3 3

This course gives the student an understanding of physics concepts which are fundamental to the profession. Subjects covered include: atomic structure; matter vs. energy; principles of electricity; x-ray production, control and management; and interactions of radiation with matter. Admission to the Radiologic Technology program is required to enroll in this course.

Offered: Fall
Prerequisites: Admission to Radiologic Technology program and ,RDT.100, RDT.101 and ALH.105, Take 1 group:,Take BIO.205 Minimum grade C or BIO.211, BIO.212 Minimum,grade C;
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS, and Certificates where applicable.
General Education – Not Applicable

RDT.111 Radiologic Technology Procedures 2  
3 3 4.5

Content is designed to provide a knowledge base necessary to perform standard radiographic procedures. This course includes basic anatomy and positioning for examinations of the abdomen, shoulder girdle, upper and lower extremity, pelvic girdle and lumbar spine. Consideration will be given to the production of radiographs of optimal diagnostic quality. Laboratory experience will be used to complement the didactic portion of the course.

Offered: Fall
Prerequisites: RDT.100, RDT.101 and ALH.105
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate: AAS, AGS and Certificates where applicable.
General Education – Not Applicable

RDT.115 Radiologic Technology Practicum 1  
17.5 3.5

This first course in clinical practice involves an average of 17.5 hours/week in the Radiology department of one of the affiliate hospitals. Emphasis is placed on patient contact as students are instructed and supervised in the performance of actual x-ray examinations of the extremities, chest, and pelvis. Attention is also directed toward the organization of the radiology department-examination priorities, patient preparation, processing of x-ray orders, etc. Admission to the Radiologic Technology program is required to enroll in this course.

Offered: Fall
Prerequisites: Admission to Radiologic Technology program Take 1 group:,Take BIO.205 Minimum grade C or BIO.211, BIO.212 Minimum,grade C;
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS, and Certificates where applicable.
General Education – Not Applicable

RDT.120 Rad Tech Physics and Instrumentation 2  
3 3

This course presents a detailed study of the technology used in acquiring, displaying and managing diagnostic images. Content is designed to establish a knowledge base in digital and analog image processing. Also discussed are image- intensified fluoroscopic, automatic exposure control and tomographic equipment requirements and design, as well as quality control and quality assurance.

Offered: Spring
Prerequisites: Admission to the Radiologic Technology program and,ALH.105, RDT.100, RDT.101, RDT.110, RDT.111, and RDT.115 Take 1 group:,Take BIO.205 Minimum grade C or BIO.211, BIO.212 Minimum,grade C;
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable.
General Education – Not Applicable
**RDT.121 Radiologic Technology Procedures 3**  
3 3 4.5

Content is designed to provide a knowledge base necessary to perform radiographic procedures. This course includes basic anatomy and positioning for examinations of the cervical and thoracic spine, bony thorax, the gastrointestinal tract, the biliary system and the genitourinary system with emphasis on related pharmacology, equipment, and image analysis. Consideration will be given to the production of radiographs of optimal diagnostic quality. Laboratory experience will be used to complement the didactic portion of the course.

Offered: Spring
Prerequisites: Admission to the Radiologic Technology program and ALH.105, RDT.100, RDT.101, RDT.110, RDT.111, and RDT.115
Take 1 group; Take BIO.205 Minimum grade C or BIO.211, BIO.212 Minimum grade C; Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate - AAS, AGS and Certificates where applicable. General Education – Not Applicable

**RDT.123 Principles of Radiologic Technology**  
3 3

This course is designed to provide a knowledge base in factors that govern the production and recording of radiographic images. The properties of density, contrast, detail and distortion are analyzed extensively with emphasis on the factors that control and influence them. Other topics include: collimation, filtration, grid usage, and exposure factor formulation.

Offered: Spring
Prerequisites: ALH.105, RDT.100, RDT.101, RDT.110, RDT.111, and RDT.115
Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate - AAS, AGS and Certificates where applicable. General Education – Not Applicable

**RDT.125 Radiologic Technology Practicum 2**  
17.5 3.5

This second clinical practicum involves an average of 17.5 hours/week in the Radiology department of one of the affiliate hospitals. This course stresses the development of competency in performing general examinations and basic fluoroscopic procedures. Students will also begin to develop a better understanding of the factors that influence radiographic quality as they apply the exposure principles learned in their theory courses. Admission to the Radiologic Technology program is required to enroll in this course.

Offered: Spring
Prerequisites: ALH.105 RDT.100 RDT.101 RDT.110 RDT.111 and RDT.115
Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate - AAS, AGS and Certificates where applicable. General Education – Not Applicable

**RDT.201 Radiologic Technology Procedures 4**  
1 2 2.5

This course is designed to provide a knowledge base necessary to perform standard radiographic procedures. Content includes basic anatomy and positioning for examinations of the skull and facial bones. Consideration will be given to the production of radiographs of optimal diagnostic quality. Laboratory experience will be used to complement the didactic portion of the course. Radiation therapy will be explored with an emphasis on basic principles of operation and general procedural considerations.

Offered: Summer
Prerequisites: RDT.100 RDT.101 RDT.110 RDT.111 RDT.115 RDT.120 RDT.121 RDT.123 RDT.125 ALH.105
Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate - AAS, AGS and Certificates where applicable. General Education – Not Applicable

**RDT.205 Radiologic Technology Practicum 3**  
20 4

This third course in clinical practice involves an average of 32 hour week in the Radiology department of one of the affiliate hospitals for 10 weeks. Students will rotate through all areas of the Radiology Department this semester. A brief affiliation with the InterCommunity Cancer Center is incorporated into this course to enable students to observe patients receiving radiation therapy.

Offered: Summer
Prerequisites: RDT.100, RDT.101, RDT.110, RDT.111, RDT.115, RDT.120, RDT.121, RDT.123, RDT.125, ALH.105
Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate - AAS, AGS and Certificates where applicable. General Education – Not Applicable

**RDT.211 Advanced Radiologic Technology Procedure**  
3 3

This course presents basic concepts of pharmacology, venipuncture and administration of diagnostic contrast agents and intravenous medications with appropriate delivery of patient care. Content is also designed to provide an introduction to the basic principles and operation of computed tomography equipment. Cross-sectional anatomy will be introduced along with an exploration of other medical imaging modalities.

Offered: Fall
Prerequisites: ALH.105 RDT.100 RDT.101 RDT.110 RDT.111 RDT.115 RDT.120 RDT.121 RDT.123 RDT.125 RDT.201 RDT.205
Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate - AAS, AGS and Certificates where applicable. General Education – Not Applicable
This course provides a basis for analyzing radiographic images. Included are the importance of optimal imaging standards, discussion of problem-solving techniques for image evaluation, and the factors that can affect image quality. Concepts related to disease and etiological considerations with emphasis on radiographic appearance of disease and impact on exposure factor selection will also be introduced. Actual images will be included for analysis.

Offered: Fall
Prerequisites: ALH.105 RDT.100 RDT.101 RDT.110 RDT.111 RDT.115 RDT.120 RDT.121 RDT.110 RDT.111 RDT.115 RDT.120 RDT.121 RDT.123 RDT.125 RDT.201 RDT.205
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable.
General Education – Not Applicable

RDT.215 Radiologic Technology Practicum 4
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This fourth Practicum involves an average of 25 hours per week of clinical experience. Emphasis is placed on developing competency in the performance of both general and special radiographic procedures.

Offered: Fall
Prerequisites: ALH.105 RDT.100 RDT.101 RDT.110 RDT.111 RDT.115 RDT.120 RDT.121 RDT.123 RDT.125 RDT.201 RDT.205
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable.
General Education – Not Applicable

RDT.220 Radiologic Technology Capstone
3 3

Course designed to re-examine knowledge, skills and attitudes required of the radiographer. Students will create learning portfolios and practice resume writing and interviewing skills. Students will also prepare for AART Registry Examination through use of review modules and practice examinations.

Offered: Spring
Prerequisites: ALH.105 RDT.100 RDT.101 RDT.110 RDT.111 RDT.115 RDT.120 RDT.121 RDT.123 RDT.125 RDT.201 RDT.205
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable.
General Education – Not Applicable

RDT.222 Radiation Biology
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This course focuses on the biological effects of radiation including radiosensitivity and the factors influencing it. Risks vs. benefits of the use of radiation will be analyzed from the patient and operator standpoint. Additional topics discussed will include the various methods employed to minimize exposure to both radiation quantities & units and computer & digital imaging considerations along with understanding regulatory standards and recommendations. Admission to the Radiologic Technology program is required to enroll in this course.

Offered: Spring
Prerequisites: RDT.210 & RDT.215 with a grade of C or better
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable.
General Education – Not Applicable

RDT.225 Radiologic Technology Practicum 5
25 5

This final practicum course stresses the refinement of the students' clinical skills. All competency requirements must be fulfilled by the end of the semester. The clinical instructor at each hospital will be working closely with students in order to correlate their assignments with their competency requirement needs. A weekly seminar is conducted in addition to the assigned clinical hours during the second eight weeks of the course. Admission to the Radiologic Technology program is required to enroll in this course.

Offered: Spring
Prerequisites: Take ALH.105 RDT.100 RDT.101 RDT.111 RDT.115 RDT.120 RDT.121 RDT.123 RDT.125 RDT.201 RDT.205 RDT 211
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable.
General Education – Not Applicable

RDT.250 CT Principles & Instrumentation
3 3

This course presents the foundations of CT image formation including data acquisition and subsequent image processing, recording, and archiving methods. The diagnostic quality of images obtained using various types of CT equipment will be emphasized along with considerations related to patient exposure dose. Admission to the Computed Tomography program is required to enroll in this course.

Offered: Fall
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable.
General Education – Not Applicable

RDT.252 Computed Tomography Procedures
4 4

This course introduces the radiographer to computed tomography imaging procedures. Patient care and scanning protocols for examination of the abdomen and pelvis, chest, head, neck, spine, and musculoskeletal system will be covered. Common abnormalities demonstrated by CT will also be discussed. Admission to the Computed Tomography program is required to enroll in this course.

Offered: Fall
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable.
General Education – Not Applicable

RDT.255 CT Practicum
1 25 6

This practicum course involves three days per week of clinical experience in affiliate hospitals and/ or imaging centers. Assignments are made to enable students to achieve competency in performing computed tomography procedures and in evaluating equipment operation. Course includes clinical seminars. Admission to the Computed Tomography program is required to enroll in this course.

Offered: Fall
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable.
General Education – Not Applicable
RDT.262 Sectional Anatomy for Diagnostic Imaging 3 3

This course is a study of sectional anatomy as demonstrated in the transverse, sagittal, and coronal planes. The use of both abstract diagrams and actual photographs of cadaver sections provide students with an understanding of the spatial relationships within the human body. CT, MRI, and/or ultrasound images are also used to supplement instruction.

Offered: Fall or Spring or Summer
Prerequisites: BIO.205 or equivalent

Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable.
General Education – Not Applicable