**RDT Radiologic Technology**

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**Content**: Designed to provide a knowledge base necessary to perform standard radiographic procedures. This course includes basic anatomy and positioning for examinations of the abdomen, chest, and pelvis. 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**: Take 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. (1.2)

**General Education**: Not Applicable

**RDT.116 Radiologic Tech Practicum 1**

This first course in clinical practice involves approximately 240 hours 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.

**Offered**: Fall

**Prerequisites**: Admission to Radiologic Technology program. Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate: AAS, AGS, and Certificates where applicable (1.2).

**General Education**: Not Applicable

**RDT.120 Radiotech Physics and Instrumentation 2**

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, scatter radiation, and pathological effects on imaging are analyzed extensively with emphasis on the factors that control and influence them. Other topics include collimation, grid use, and PACS systems for image storage and transfer (1.2).

**Offered**: Spring

**Prerequisites**: Admission to Radiologic Technology program and ALH.105, RDT.100, RDT.101, RDT.110, RDT.111, and RDT.116 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 (1.2).

**General Education**: Not Applicable
This second clinical practicum involves approximately 240 hours 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.

Offered: Spring
Prerequisites: Take ALH.105 RDT.100 RDT.101 RDT.110 RDT.111 RDT.116; Admission to Radiologic Technology program
Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate: AAS, AGS and Certificates where applicable (1.2).
General Education – Not Applicable

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.116 RDT.120 RDT.121 RDT.126 ALH.105
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable (1.2).
General Education – Not Applicable

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 Western Illinois Cancer Treatment 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.116, RDT.120, RDT.121, RDT.126, ALH.105
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable (1.2).
General Education – Not Applicable

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. Special, surgical and interventional procedures will be presented, along with an exploration of other medical imaging modalities.

Offered: Fall
Prerequisites: ALH.105 RDT.100 RDT.101 RDT.110 RDT.111 RDT.116 RDT.120 RDT.121 RDT.126 RDT.201 RDT.205
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable (1.2).
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.116 RDT.120 RDT.121 RDT.126 RDT.201 RDT.205
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable (1.2).
General Education – Not Applicable

This course presents an advanced study of the technology used in acquiring, displaying and managing diagnostic images. Content is designed to establish an understanding of recorded detail and distortion, as well as automatic exposure control, mobile radiography, image-intensified fluoroscopic units, quality control and quality assurance. This course also includes information on the physics and instrumentation of computed tomography imaging.

Offered: Fall
Prerequisites: Take ALH.105 RDT.100 RDT.101 RDT.110 RDT.111 RDT.116 RDT.120 RDT.121 RDT.126 RDT.201 RDT.205;
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate: AAS, AGS and Certificates where applicable Offered: Fall 2020 (1.2).
General Education – Not Applicable
Course Description: This final Practicum involves an average of 24 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: Take ALH.105 RDT.100 RDT.101 RDT.110 RDT.111 RDT.116 RDT.120 RDT.121 RDT.126 RDT.201 RDT.205 Admission to Radiologic Technology program
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate: AAS, AGS and Certificates where applicable (1.2).
General Education – Not Applicable

RDT.220 Radiologic Technology Capstone

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 the 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.116 RDT.120 RDT.121 RDT.126 RDT.201 RDT.205 Admission to Radiologic Technology program
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate - AAS, AGS and Certificates where applicable (1.2).
General Education – Not Applicable

RDT.223 Radiation Biology

This course focuses on the biological effects of radiation including radionuclide 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.
Offered: Spring
Prerequisites: Take ALH.105 RDT.100 RDT.101 RDT.110 RDT.111 RDT.116 RDT.120 RDT.121 RDT.126 RDT.201 RDT.205 RDT.211 RDT.212 RDT.216 Admission to Radiologic Technology program
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate: AAS, AGS and Certificates where applicable (1.2).
General Education – Not Applicable

RDT.226 Radiologic Tech Practicum 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.
Offered: Spring
Prerequisites: Take ALH.105 RDT.100 RDT.101 RDT.110 RDT.111 RDT.116 RDT.120 RDT.121 RDT.126 RDT.201 RDT.205 RDT.211 RDT.212 RDT.216 RDT.223;
Applicable toward graduation at Sandburg where program structure permits:
Degree or Certificate: AAS, AGS and Certificates where applicable (1.2).
General Education – Not Applicable

RDT.250 CT Principles & Instrumentation

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 (1.2).
General Education – Not Applicable

RDT.252 Computed Tomography Procedures

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 (1.2).
General Education – Not Applicable

RDT.255 CT Practicum

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 (1.2).
General Education – Not Applicable

RDT.262 Sectional Anatomy for Diagnostic Imaging

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 (1.2).
General Education – Not Applicable