

RADIOGRAPHY/DIAGNOSTIC MEDICAL SONOGRAPHY (526)

Radiography Courses (526-1xx)

Diagnostic Medical Sonography Courses (526-2xx)

526-149 - Radiographic Procedures 1

Prepares Radiography students to perform routine radiologic procedures on various parts of the body including the upper body, hip, pelvis and ankle. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result. (Prerequisites: 806-177 General Anatomy and Physiology; admission to the Radiography program)

5 Credit hours

54 Lecture hours

72 Lab hours

526-158 - Introduction to Radiography

Introduces students to the role of radiography in health care. Students apply healthcare communication techniques. Students are introduced to legal and ethical considerations, patient interactions and management, patient and provider safety, and pharmacology. (Prerequisites: Completion of or concurrent enrollment in 890-101 College 101.

Admission to the Radiography program; Criminal Background Check and Health Requirement Verification required.)

3 Credit hours

36 Lecture hours

36 Lab hours

526-159 - Radiographic Imaging

Introduces radiography students to the process and components of imaging. Students determine the factors that affect image quality including contrast, receptor exposure, spatial resolution and distortion. (Prerequisite: Admission to the Radiography program)

3 Credit hours

36 Lecture hours

36 Lab hours

526-168 - Radiography Clinical 1

This beginning-level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting. (Prerequisites: Admission to the Radiography program; Criminal Background Check and Health Requirement Verification required.)

1 Credit hours

108 Other hours

526-174 - ARRT Certification Seminar

Provides preparation for the national certification examination prepared by the American Registry of Radiologic Technologists. Emphasis is placed on the weak areas of the individual students. Simulated registry examinations are utilized. (Corequisite: 526-198 Radiography Clinical 6)

2 Credit hours

36 Lecture hours

526-189 - Radiographic Pathology

Prepares Radiography students to determine the basic radiographic manifestations of pathological conditions. Students classify trauma related to site, complications and prognosis and locate the radiographic appearance of pathologies. (Prerequisites: 526-194 Imaging Equipment Operation; 526-195 Radiographic Image Analysis; 526-199 Radiography Clinical 4. Corequisites: 526-190 Radiography Clinical 5; 526-197 Radiation Protection and Biology; 526-231 Imaging Modalities)

1 Credit hours

18 Lecture hours

526-190 - Radiography Clinical 5

This fifth-level clinical course prepares Radiography students to perform radiologic procedures on patients with some supervision. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. (Prerequisites: 526-194 Imaging Equipment Operation; 526-195 Radiographic Image Analysis; 526-199 Radiography Clinical 4; Criminal Background Check and Health Requirement Verification required. Corequisites: 526-189 Radiographic Pathology; 526-197 Radiation Protection and Biology; 526-231 Imaging Modalities)

2 Credit hours

432 Other hours

526-191 - Radiographic Procedures 2

Prepares radiography students to perform routine radiographic procedures of the skull, facial bones, sinus, spine, bony thorax, gastrointestinal, urological, and special studies. Course includes considerations for contrast, mobile, surgical and trauma procedures. Students apply knowledge of human anatomy to position the patient correctly to achieve and evaluate optimal diagnostic quality images which includes identifying radiographically significant anatomy.

(Prerequisites: 526-149 Radiographic Procedures 1; 526-158 Introduction to Radiography; 526-159 Radiographic Imaging; 526-168 Radiography Clinical 1. Corequisites: 526-192 Radiography Clinical 2; 526-230 Advanced Radiographic Imaging)

5 Credit hours

54 Lecture hours

72 Lab hours

526-192 - Radiography Clinical 2

This second level clinical course continues to prepare radiography students to perform radiologic procedures on patients with considerable direct and limited indirect supervision. Students apply radiation protection and standard precautions in the production of radiographic images in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.

(Prerequisites: 526-149 Radiographic Procedures 1; 526-158 Introduction to Radiography; 526-159 Radiographic Imaging; 526-168 Radiography Clinical Practice 1; Criminal Background Check and Health Requirement Verification required. Corequisites: 526-191 Radiographic Procedures 2; 526-230 Advanced Radiographic Imaging)

4 Credit hours

432 Other hours

526-193 - Radiography Clinical 3

This third level clinical course prepares radiography students to perform radiologic procedures on patients with varying degrees of direct and indirect supervision. Students apply radiation protection and standard precautions in the production of radiographic images in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the demonstration of communication and critical thinking skills appropriate to the clinical setting. (Prerequisites: 526-191 Radiographic Procedures 2; 526-192 Radiography Clinical 2; 526-230 Advanced Radiographic Imaging; Criminal Background Check and Health Requirement Verification required.)

3 Credit hours

216 Other hours

526-194 - Imaging Equipment Operation

Introduces Radiography students to the principles and application of x-ray technology. Students analyze how x-rays are produced and determine the corrective actions necessary for common equipment malfunctions. (Prerequisite: 526-193 Radiography Clinical 3. Corequisites: 526-195 Radiographic Image Analysis; 526-199 Radiography Clinical Practice 4)

3 Credit hours

54 Lecture hours

526-195 - Radiographic Image Analysis

Prepares Radiography students to analyze radiographic images for quality. Students apply quality control tests to determine the cause of image problems including equipment malfunctions and procedural errors. (Prerequisite: 526-193 Radiography Clinical Practice 3. Corequisites: 526-194 Imaging Equipment Operation; 526-199 Radiography Clinical 4)

2 Credit hours

18 Lecture hours

36 Lab hours

526-197 - Radiation Protection & Biology

Prepares Radiography students to protect themselves and others from exposure to radioactivity. Students examine the characteristics of radiation and how radiation affects cell biology. Students apply standards and guidelines for radiation exposure. (Prerequisites: 526-194 Imaging Equipment Operation; 526-195 Radiographic Image Analysis; 526-199 Radiography Clinical 4. Corequisites: 526-189 Radiographic Pathology; 526-190 Radiography Clinical 5; 526-231 Imaging Modalities)

3 Credit hours

54 Lecture hours

526-198 - Radiography Clinical 6

This final clinical course requires students to integrate and apply all knowledge learned in previous courses to the production of high quality images in the clinical setting with minimal direct and primarily indirect supervision. Students apply radiation protection and standard precautions in the production of images in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. (Prerequisites: 526-189 Radiographic Pathology; 526-190 Radiography Clinical 5; 526-197 Radiation Protection and Biology; Criminal Background Check and Health Requirement Verification required. Corequisite: 526-174 ARRT Certification Seminar)

2 Credit hours

144 Other hours

526-199 - Radiography Clinical 4

This fourth level clinical course prepares radiography students to perform radiologic procedures on patients. The student transitions from direct to indirect supervision as competency performance increases. Students apply radiation protection and standard precautions in the production of radiographic images in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. (Prerequisite: 526-193 Radiography Clinical 3. Corequisites: 526-194 Imaging Equipment Operation; 526-195 Radiographic Image Analysis; Criminal Background Check and Health Requirement Verification required.)

3 Credit hours

360 Other hours

526-200 - Intro to DMS

Introduces learners to the field of Diagnostic Medical Sonography. Explores the duties and functions of the Diagnostic Medical Sonographer as well as the historical background. Learners examine the other imaging modalities as they relate to Sonography. Includes principles of patient care and legal and ethical issues related to Sonography. (Prerequisite: Acceptance into the Diagnostic Medical Sonography program)

3 Credit hours

36 Lecture hours

36 Lab hours

526-203 - Scanning with Proficiency

Prepares learners for the rigors of clinical imaging by performing timed abdominal and gynecological competencies. (Prerequisites: 526-207 Abdominal Sonography; 526-208 OB/GYN Sonography 1; 526-221 Sonography Physics 1)

1 Credit hours

36 Lab hours

526-207 - Abdominal Sonography

Prepares learners to perform ultrasounds of the abdominal organs including liver, gallbladder, biliary tree, pancreas, spleen, urinary tract, aorta and retroperitoneum. Emphasis is placed on recognizing the anatomy and pathology of the abdominal organs. Practice scan sessions included. (Prerequisites: 526-200 Intro to DMS; 806-177 General Anatomy and Physiology; 806-179 Advanced Anatomy and Physiology)

4 Credit hours

36 Lecture hours

72 Lab hours

526-208 - OB/GYN Sonography 1

Prepares learners to perform ultrasounds of the nongravid uterus and the first-trimester pregnancy. Explores the anatomy, physiology, and pathology of the female reproductive system as well as intrauterine and ectopic pregnancies. (Prerequisites: 526-200 Intro to DMS; 806-177 General Anatomy and Physiology; 806-179 Advanced Anatomy and Physiology)

3 Credit hours

36 Lecture hours

36 Lab hours

526-209 - DMS Clinical Experience 1

Opportunities to apply scanning skills in a clinical setting. Students concentrate efforts on ultrasound examination of the abdominal organs. Participation in this course will take place at a hospital or clinic. (Prerequisites: 526-207 Abdominal Sonography; 526-208 OB/GYN Sonography 1; 526-210 Cross Sectional Anatomy; 526-221 Sonography Physics 1. Criminal Background Check and Health Requirement Verification required.)

2 Credit hours

288 Other hours

526-210 - Cross Sectional Anatomy

Introduces cross sectional anatomy as related to Diagnostic Medical Sonography. Includes correlating images from other imaging modalities. (Prerequisite: Acceptance into the Diagnostic Medical Sonography program)

2 Credit hours

36 Lecture hours

526-211 - Superficial Sonography

Investigates superficial structure imaging. Includes anatomy, pathophysiology, and sonographic evaluation. Prepares learner to perform ultrasounds of the thyroid, breast, male reproductive system, musculoskeletal system, and GI tract. (Prerequisites: 526-207 Abdominal Sonography; 526-208 OB/GYN Sonography 1; 526-221 Sonography Physics 1)

2 Credit hours

18 Lecture hours

36 Lab hours

526-212 - OB/GYN Sonography 2

Prepares learners to perform ultrasounds of the second and third-trimester pregnancy. Explores the anatomy, physiology, and pathology of the female pelvis and the developing fetus. Learners will be exposed to interventional procedures related to pregnancy. (Prerequisite: 526-208 OB/GYN Sonography 1)

3 Credit hours

36 Lecture hours

36 Lab hours

526-215 - DMS Clinical Experience 3

Opportunities to apply scanning skills in a clinical setting. Students concentrate efforts on ultrasound examination in the clinical setting under the direction of the clinical preceptor. Participation in this course will take place at a hospital or clinic but may include case study examination, quizzes, journaling, and assignments to complete the clinical experience. (Prerequisites: 526-226 DMS Clinical Experience 2. Criminal Background Check and Health Requirement Verification required.)

4 Credit hours

432 Other hours

526-217 - Registry Review

Review of the competencies covered in the Diagnostic Medical Sonography program. This course prepares students to sit for the ARDMS registry exam.

1 Credit hours

18 Lecture hours

526-221 - Sonography Physics 1

Introduces physics and instrumentation relevant to diagnostic medical sonography. Learners explore how principles of sound propagation in tissues create a sonographic image. (Prerequisites: 806-143 College Physics 1; Acceptance into the Diagnostic Medical Sonography program)

3 Credit hours

54 Lecture hours

526-222 - Sonography Physics 2

Continues the study of physics and instrumentation relevant to diagnostic medical sonography. The laboratory component of this course introduces the student to the concepts of ultrasound instrumentation, an introduction to ultrasonic scanning technique, and maintenance of ultrasound equipment. (Prerequisite: 526-221 Sonography Physics 1)

2 Credit hours

36 Lecture hours

526-223 - Vascular Imaging 1

Introduces the principles of vascular sonographic imaging. Learners perform a variety of peripheral vascular arterial and venous duplex exams. (Prerequisite: Completion of or concurrent enrollment in 526-221 Sonography Physics 1)

3 Credit hours

36 Lecture hours

36 Lab hours

526-224 - Vascular Imaging 2

Prepares learners to perform abdominal vascular and physiologic peripheral vascular exams. (Prerequisite: 526-223 Vascular Imaging 1)

3 Credit hours

36 Lecture hours

36 Lab hours

526-226 - DMS Clinical Experience 2

Opportunities to apply scanning skills in a clinical setting. Students concentrate efforts on ultrasound examination in the clinical setting under the direction of the clinical preceptor. Participation in this course will take place at a hospital or clinic but may include case study examination, quizzes, journaling, and assignments to complete the clinical experience. (Prerequisites: 526-209 DMS Clinical Experience 1. Criminal Background Check and Health Requirement Verification required.)

4 Credit hours

288 Other hours

526-230 - Advanced Radiographic Imaging

Explores the factors that impact image acquisition, display, archiving and retrieval. Guidelines for selecting exposure factors and evaluating images within digital systems are discussed. Principles of digital system quality assurance and maintenance are presented. (Prerequisites: 526-149 Radiographic Procedures 1; 526-158 Introduction to Radiography; 526-159 Radiographic Imaging; 526-168 Radiography Clinical 1.

Completion of or concurrent enrollment in 103-159 Computer Literacy – Microsoft Office. Corequisites: 526-191 Radiographic Procedures 2; 526-192 Radiography Clinical 2)

2 Credit hours

18 Lecture hours

36 Lab hours

526-231 - Imaging Modalities

Introduces radiography students to imaging modalities with an emphasis in computed tomography and cross-sectional anatomy. (Prerequisites:

526-194 Imaging Equipment Operation; 526-195 Radiographic Image

Analysis; 526-199 Radiography Clinical 4. Corequisites: 526-189

Radiographic Pathology; 526-190 Radiography Clinical 5; 526-197

Radiation Protection and Biology)

2 Credit hours

18 Lecture hours

36 Lab hours