

LAST REVIEW: 2010-2011 **NEXT REVIEW:** 2015-2016 **STATUS:** A

COURSE TITLE: Radiographic Procedures I Lab

COMMON COURSE NUMBER: RTE 1503L

CREDIT HOURS: 1

CONTACT HOUR BREAKDOWN

CLOCK HOURS:

Lecture: Lab: 32

Clinic: Other:

PREREQUISITE(S): Program Admission

COREQUISITE(S):

PRE/COREQUISITE(S): RTE 1000, RTE 1111, RTE 1503, RTE 1804

COURSE DESCRIPTION: Practical application of Radiographic Procedures I class, to include radiography of the chest, abdomen, biliary system and gastrointestinal tract, urinary system, and related trauma and mobile examinations of adults and pediatric patients.

UNIT TITLES

1. Anatomy and Positioning Fundamentals
2. Chest Radiography
3. Abdomen Radiography
4. Biliary System and Upper Gastrointestinal Tract Radiography
5. Lower Gastrointestinal Tract Radiography
6. Urinary System Radiography

EVALUATION: Assessment includes laboratory equipment use and patient positioning competency challenges.

Common Course Number: RTE 1503L

UNITS

Unit 1 Anatomy & Positioning Fundamentals

General Outcome:

- 1.0 The student shall be able to accurately employ the basic radiography equipment necessary for production of a diagnostic image with digital and film based imaging systems.**

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 1.1** Identify and appropriately employ the radiographic equipment and accessories necessary to produce digital or film type images of trauma, non-trauma, adult and pediatric patients with fixed and mobile radiography units.
- 1.2** Accurately identify the anatomy, demonstrated on radiographs, skeletons, phantoms, or diagrams of the body areas covered in the course.
- 1.3** Describe, in anatomic terms, the patient and equipment manipulation for each of the assigned positions required for radiography of the anatomic areas covered in course, including trauma, mobile and pediatric patients.
- 1.4** Demonstrate appropriate patient and coworker interpersonal relationships and communication skills.
- 1.5** Demonstrate appropriate safety precautions for protection of the patient, personnel and equipment in the laboratory.
- 1.6** Demonstrate appropriate use of the technical settings on the machine for each of the positions and/or projections performed in the laboratory.
- 1.7** Accurately suggest corrections to be made in positioning of the patient or equipment when poor quality radiographs are produced.
- 1.8** Position patient (lab partner), utilizing body landmarks, to achieve the best demonstration of the affected body part by adjusting table, radiographic equipment, and image receptor using knowledge of anatomy, standard radiographic positions and department protocol.
- 1.9** Use immobilization devices, when indicated, to prevent patient movement.

- 1.10** Give patient proper breathing instructions (e.g., inspiration, expiration) prior to making exposure.
- 1.11** Demonstrate knowledge of the principles of radiation protection for the patient, self and others.
- 1.12** Demonstrate knowledge and skill in using all the digital and film based equipment required to image those body parts covered in the course.
- 1.13** When indicated, place a gonadal shield over male and female reproductive organs prior to taking radiograph.
- 1.14** Demonstrate the knowledge to exercise independent judgment and discretion in the technical performance of medical imaging procedures.
- 1.15** Select image receptor and grid combinations appropriate for the part to be radiographed when performing mobile and pediatric imaging.
- 1.16** Restrict the beam to limit exposure to the area of interest to improve image quality.

Common Course Number: RTE 1503L

UNITS

Unit 2 Chest Radiography

General Outcome:

2.0 The student shall be able to accurately position lab partners or phantoms for each of the basic and optional views of the chest.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 2.1** Accurately position a lab partner and align the equipment appropriately for each of the positions or projections employed to demonstrate the chest of adults and pediatric patients.
- 2.2** Accurately identify chest anatomy on diagrams, skeletons and radiographs.
- 2.3** Describe, in anatomical terms, the positioning of a patient for chest radiography.
- 2.4** Demonstrate appropriate patient-technologist interpersonal relationship and communication skills while positioning for chest radiography.
- 2.5** Demonstrate appropriate safety precautions for protection of the patient and technologist while performing chest radiography.
- 2.6** Demonstrate appropriate use of technical factors in establishing exposure settings for chest radiography.
- 2.7** Accurately correct positioning and equipment errors when poor quality radiographs of the chest are produced.
- 2.8** Accurately position patients or phantoms of adults and pediatric patients with simulated trauma and/or use equipment as it would be used for mobile radiography of the body parts covered in the course.

Common Course Number: RTE 1503L

UNITS

Unit 3 Abdomen Radiography

General Outcome:

3.0 The student shall be able to accurately position lab partners or phantoms for each of the basic and optional views of the Abdomen.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 3.1** Accurately position a lab partner and align the equipment appropriately for each of the positions or projections employed to demonstrate the abdomen.
- 3.2** Accurately identify abdomen anatomy on diagrams, skeletons and radiographs.
- 3.3** Describe, in anatomical terms, the positioning of a patient for abdominal radiography.
- 3.4** Demonstrate appropriate patient-technologist interpersonal relationship and communication skills while positioning for abdominal radiography.
- 3.5** Demonstrate appropriate safety precautions for protection of the patient and technologist while performing abdominal radiography.
- 3.6** Demonstrate appropriate use of technical factors in establishing exposure settings for abdominal radiography done in the department as mobile procedures.
- 3.7** Accurately correct positioning and equipment errors when poor quality radiographs of the abdomen are produced.
- 3.8** Accurately position a lab partner and align the equipment appropriately for each of the positions or projections employed to demonstrate the abdomen as it would be done for a mobile /bedside exam.
- 3.9** Accurately position a lab partner and align the equipment appropriately for each of the positions or projections employed to demonstrate the abdomen on trauma and pediatric patients.

Common Course Number: RTE 1503L

UNITS

Unit 4 Biliary System and Upper Gastrointestinal Tract Radiography

General Outcome:

4.0 The student shall be able to accurately position lab partners or phantoms for each of the basic and optional views of the Biliary System and Upper Gastrointestinal Tract.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 4.1** Accurately position a lab partner and align the equipment appropriately for each of the positions or projections employed to demonstrate the Biliary system and UGI tract.
- 4.2** Accurately identify Biliary system and UGI tract anatomy on diagrams, skeletons and radiographs.
- 4.3** Describe, in anatomical terms, the positioning of a patient for Biliary system and UGI tract radiography.
- 4.4** Demonstrate appropriate patient-technologist interpersonal relationship and communication skills while positioning for Biliary system and UGI tract radiography.
- 4.5** Demonstrate appropriate safety precautions for protection of the patient and technologist while performing Biliary system and UGI tract radiography.
- 4.6** Demonstrate appropriate use of technique charts in establishing exposure settings for Biliary system and UGI tract radiography.
- 4.7** Accurately correct positioning and equipment errors when poor quality radiographs of the Biliary system and UGI tract are produced.
- 4.8** Accurately position a lab partner and align the equipment appropriately for each of the positions or projections employed to demonstrate the Biliary system and UGI tract on trauma and pediatric patients.

Common Course Number: RTE 1503L

UNITS

Unit 5 Lower Gastrointestinal Tract Radiography

General Outcome:

5.0 The student shall be able to accurately position lab partners or phantoms for each of the basic and optional views of the Lower Gastrointestinal Tract.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 5.1** Accurately position a lab partner and align the equipment appropriately for each of the positions or projections employed to demonstrate the LGI tract on adults and pediatric patients.
- 5.2** Accurately identify LGI tract anatomy on diagrams, skeletons and radiographs.
- 5.3** Describe, in anatomical terms, the positioning of a patient for LGI tract radiography.
- 5.4** Demonstrate appropriate patient-technologist interpersonal relationship and communication skills while positioning for LGI tract radiography.
- 5.5** Demonstrate appropriate safety precautions for protection of the patient and technologist while performing LGI tract radiography.
- 5.6** Demonstrate appropriate use of technique charts in establishing exposure settings for LGI tract radiography.
- 5.7** Accurately correct positioning and equipment errors when poor quality radiographs of the LGI tract are produced.
- 5.8** Accurately position a lab partner or phantom and align the equipment appropriately for each of the positions or projections employed to demonstrate the LGI tract on adults and pediatric trauma patients.

Common Course Number: RTE 1503L

UNITS

Unit 6 Urinary System Radiography

General Outcome:

6.0 The student shall be able to accurately position lab partners or phantoms for each of the basic and optional views of the Urinary System.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 6.1** Accurately position a lab partner and align the equipment appropriately for each of the positions or projections employed to demonstrate the urinary system of adults and pediatric patients.
- 6.2** Accurately identify urinary system anatomy on diagrams, skeletons and radiographs.
- 6.3** Describe, in anatomical terms, the positioning of a patient for urinary system radiography.
- 6.4** Demonstrate appropriate patient-technologist interpersonal relationship and communication skills while positioning for urinary system radiography.
- 6.5** Demonstrate appropriate safety precautions for protection of the patient and technologist while performing urinary system radiography.
- 6.6** Demonstrate appropriate use of technique charts in establishing exposure settings for urinary system radiography.
- 6.7** Accurately correct positioning and equipment errors when poor quality radiographs of the urinary system are produced.
- 6.8** Accurately position a lab partner and align the equipment appropriately for each of the positions or projections employed to demonstrate the urinary system of adults and pediatric patients in a trauma situation.