

IDAHO STATE UNIVERSITY
Radiographic Science Program
RS 3342 Laboratory Practicum III
Course Syllabus

Course Credit: 1 Credit
Time and Location: Tuesday 1:30 - 3:20 p.m. (sec. 1)
3:30 - 5:30 p.m. (sec. 2)
Thursday 8:00 - 9:50 a.m. (sec.3)
10:00 - 1:50 p.m. (sec. 4)

Nursing Building, Rm 120

Instructor: Wendy Mickelsen, MHE, RT (R)(M)(BD) (208)282-2112
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Overview:

This course is structured to provide the practical application of theory and principles covered in RS 3312. The student will practice routine positions utilized for the lower gastrointestinal system, bony thorax, skull and cranial bones, facial bones and paranasal sinuses, and urinary system.

Students will make x-ray exposures utilizing several phantoms. Peer positioning will accompany this course, but there will be no radiation exposure to each other. There will be several required lab assignments.

The practical experience gained in the laboratory is meant to prepare the student to function competently in the clinical setting.

In this course students will be instructed in the utilization of imaging equipment, accessories, optimal exposure factors, and proper patient positioning to minimize radiation exposure to the patients, themselves, and others. These practices assure radiation exposures are kept as low as reasonably achievable (ALARA).

Course Learning Objectives/Goals: This lab uses a “hands on approach” which prepares students to practice as a radiographer. It has been designed to give the student the opportunity to simulate in a laboratory setting the radiographic positioning terms and positions that are taught in class. Additionally, the technical aspects of the exam will be presented and phantoms will be utilized to make exposures. Radiographs will be provided to label anatomy, which gives the student the opportunity to interact and to be quizzed by the course instructor. Upon completion of the course the student will be ready to perform the exams in a clinical setting.

The **Secretary's Commission on Achieving Necessary Skills (SCANS):** This commission was appointed by the Secretary of Labor to determine the skills people need to succeed in the work place. The Commission's fundamental purpose is to encourage a high-performance economy characterized by high-skill, high-wage employment. The Commission's research found that effective job performance is what business calls *workplace know-how*. This know-how has two elements: competencies and a foundation. The SCANS report identifies five competencies and a three-part foundation of skills and personal qualities that lie at the heart of job performance.

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While the Commission's work ended with the report, its recommendations must be implemented; as the report stated, "...defining competencies and a foundation is not enough. Schools must teach them. Students must learn them."

<http://www.academicinnovations.com/report.html>

Description of SCANS competencies are as follows:

A Three Part Foundation	
1. Basic Skills	reads, writes, performs arithmetic and mathematical operations, listens and speaks
2. Thinking Skills	thinks creatively, makes decisions, solves problems, visualizes, knows how to learn, and reasons
3. Personal Qualities	displays responsibility, self-esteem, sociability, self-management, and integrity and honesty
The Five Competencies	
4. Resources	identifies, organizes, plans and allocates resources
5. Interpersonal	works with others
6. Information	acquires and uses information
7. Systems	understands complex interrelationships
8. Technology	works with a variety of technologies

Each of these foundations and competencies are listed after the objective that meets the competency or skill set described above.

Course Learning Outcomes:

Chapter 13 Lower Gastrointestinal System

Upon completion of this chapter the student will be able to:	SCANS
Manipulate the x-ray phantoms and peers into appropriate positions for routine lower gastrointestinal system examinations.	1,2,3,4,6,7,8
Expose phantoms for lower GI examinations in the following positions or projections: AP, PA, RAO, LAO, RPO, LPO, AP Axial (butterfly), lateral rectum, lateral decubitus, ventral decubitus.	1,2,4,6,7,8
Position a lab partner and image receptor properly according to body habitus.	1,2,6
Utilize the correct image receptor (DR or CR), and marker placement.	1,2,6
Manipulate the radiographic tube and table so that vertical, longitudinal or horizontal detents are attained.	1,2,6
Determine the correct exposure factors of (kV, mA, time) according to accepted methods.	1,2,6
Demonstrate the use of radiation protection by use of collimation, distance, gonadal shields, lead aprons, and through appropriate instructions or questions to patients.	1,2,3,5,6
Label radiographs for anatomy presented in this chapter.	1,2,4

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Analyze radiographs for accuracy of positioning and/or technique.	1,2,3,6
Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.	1,2,3,5,6

Chapter 10 Bony Thorax

Upon completion of this chapter the student will be able to:	SCANS
Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the bony thorax, sternum, and ribs.	1,2,3,4,5,6,7,8
Expose phantoms in the following positions: RAO sternum, lateral sternum, and ribs above and below the diaphragm - PA, AP, oblique.	1,2,4,5,6,7,8
Discuss the importance in performing a PA chest x-ray in addition to a rib series examination.	1,2,6
Determine the correct image receptor size and correct marker placement.	1,2,6
Position a lab partner and image receptor properly according to body habitus.	1,2,3,5
Manipulate the radiographic tube and table so that vertical, longitudinal, or horizontal detents are attained.	1,2,6
Determine the correct exposure factors of (kV, mA, time) according to accepted methods.	1,2,6
Demonstrate the use and value the importance of radiation protection by use of collimation, distance, gonadal shields, lead aprons, and through appropriate instructions or questions to the patient.	1,2,3,5,6
Label radiographs for anatomy presented in this chapter.	1,2,4
Analyze radiographs for accuracy of positioning and/or technique.	1,2,3,6
Critique radiographs based on evaluation criteria provided in the textbook.	1,2,3,5,6

Chapter 11 Skull and Cranial Bones

Upon completion of this chapter the student will be able to:	SCANS
Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examinations of the skull and cranial bones.	1,2,3,4,6,8
Expose phantoms for skull and cranial bone exams in the following positions or projections: AP Axial (Towne Method), lateral, PA Axial (Caldwell Method), PA 0°, SMV, and PA Axial (Haas Method).	1,2,4,5,6,7,8
Perform a trauma skull series with the phantom wearing a cervical collar.	1,2,4,6,7,8
Determine the correct image receptor size and correct marker placement.	1,2,3,5
Manipulate the radiographic tube and table so that vertical, longitudinal, or horizontal detents are attained.	1,2,6
Manipulate the radiographic tube for routine and non-routine positions including cross table positioning.	1,2,6
Determine the correct exposure factors of (kV, mA, time) according to accepted methods.	1,2,6
Demonstrate the use and value the importance of radiation protection by use of collimation, distance, gonadal shields, lead aprons, and through appropriate	1,2,6

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instructions or questions to the patient.	
Label radiographs for anatomy presented in this chapter.	1,2,3,5,6
Analyze radiographs for accuracy of positioning and/or technique.	1,2,4
Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.	1,2,3,6

Chapter 11 Facial Bones and Paranasal Sinuses

Upon completion of this chapter the student will be able to:	SCANS
Manipulate the x-ray phantoms and peers into appropriate positions for the facial bones and paranasal sinuses.	1,2,3,4,,6,8
Expose phantoms for the facial bones and paranasal sinuses in the following positions or projections: AP Axial (Towne Method), lateral, PA Axial (Caldwell Method), PA 0°, Parietoacantial (Waters), Modified Parietoacantial (Modified Waters), SMV, Parietoorbital (Rhese Method), and axiolateral obliques.	1,2,6,8
Determine the correct image receptor size and correct marker placement.	1,2,6
Manipulate the radiographic tube and table so that vertical, longitudinal, or horizontal detents are attained.	1,2,6
Manipulate the radiographic tube for routine and non-routine positions including cross table positioning.	1,2,6
Determine the correct exposure factors of (kV, mA, time) according to accepted methods.	1,2,6
Demonstrate the use and value the importance of radiation protection by use of collimation, distance, gonadal shields, lead aprons, and through appropriate instructions or questions to the patient.	1,2,3,5,6
Label radiographs for anatomy presented in this chapter.	1,2,4
Analyze radiographs for accuracy of positioning and/or technique.	1,2,3,6
Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.	1,2,3,5,6

Chapter 14 Urinary System

Upon completion of this chapter the student will be able to:	SCANS
Manipulate the x-ray phantoms and peers into appropriate positions for routine urinary system examinations (VCUG, IVU, retrograde pyelogram).	1,2,3,4,6,8
Expose phantoms for the exams presented in this chapter in the following positions: AP, PA, RPO, LPO, lateral.	1,2,6,8
Perform a contrast history questionnaire on a peer.	1,2,5,6,8
Position a lab partner and the image receptor properly according to body habitus.	1,2,3,5
Discuss the importance of timing IVU examinations.	1,2,6
Determine the correct image receptor size and correct marker placement.	1,2,6
Determine the correct exposure factors of (kV, time, mA) according to accepted methods.	1,2,6
Demonstrate successful venipuncture in the antecubital fossa by obtaining a flashback using a butterfly needle.	1,2,4,5,6,7

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Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and through appropriate instructions or questions to the patient.	1,2,3,5,6
Label radiographs for anatomy presented in this chapter.	1,2,4
Analyze radiographs for accuracy of positioning and/or technique.	1,2,3,6
Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.	1,2,3,5,6

Required Text:

Bontrager, K.L. *Radiographic Positioning and Related Anatomy*, 2021, 10th ed., Mosby Year Book, St. Louis.

Method of Presentation: Informal lecture, Lab assignments, and Practical Positioning.

Code of Ethics: RS 3342 adheres to the ISU Code of Conduct. In particular, academic dishonesty, however small, creates a breach in academic integrity. A student's participation in this course comes with the expectation that his or her work will be completed in full observance of the ISU Code of Student Conduct.

Academic Dishonesty Policy: Academic dishonesty (cheating, plagiarism, etc.) will not be tolerated in this class and may result in suspension or dismissal from this course and from the program. Cases will also be referred to the Dean of Students for possible dismissal from the university.

Cheating includes, but is not limited to, (1) use of any unauthorized assistance in taking quizzes, tests, or examinations; (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or completing other assignments; or (3) the acquisition of tests or other academic materials belonging to the university faculty or staff without permission.

Plagiarism includes, but is not limited to, the use of, by paraphrase or direct quotation without correct recognition, the published or unpublished works of another person. The use of materials generated by agencies engaged in "selling" term papers is also plagiarism.

Many components RS 3342 are designed to be highly interactive. Students are encouraged to take full advantage of the many resources available including Internet sites, handouts and workbooks, other textbooks and journals, faculty, and peers. This interactive collegial learning environment is conducive for life-long learning.

Classroom Procedure

1. **Attendance:** You are expected to attend lab 100% of the time during your scheduled section. If something urgent arises (such as an emergency or death in the family), contact me directly and I will accommodate a trade with another student or arrange a make-up lab session. This will only be performed with **prior approval**. Without prior approval, the student will receive a 0%. Only

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one make-up lab per semester/per student will be allowed (unless a medical release is provided or extreme extenuating circumstances exists).

2. Grading Procedure:

There are several lab assignments and ASRT radiographic positioning modules/video quizzes each worth 100 points. Each must be completed and turned in. Laboratory assignments handed in late will be deducted 10% for each day past the scheduled turn in date, resulting in a 0% if one week or more late.

Radiographic images are taken and labeled individually. This is a mandatory requirement to receive all of the points possible during each lab session.

In addition, it is a requirement to complete all of the labs offered during the semester. An incomplete will be issued if this requirement is not met.

Letter grades will be awarded as follows:

+/- System			
93-100%	A	73-76%	C
90-92%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-
77-79%	C+	59% Below	F

Note: A grade of C or better is required in this course in order to receive a degree from the Department of Radiographic Science.

6. Radiation Monitoring: Students must wear their TLD during each lab session. Failure to wear the TLD will result in the student being required to remain OUTSIDE of the lab during each radiographic exposure.

7. Cell phone policy: Cell phones should not be used in class. They should be placed in silent mode or turned off. Additionally receiving and retrieving text messages should not occur during class or in labs. If you need to communicate to someone outside of the class in an emergency situation please inform the instructor so accommodations to this policy may be made.

Disability Services: Students with disabilities who wish to have accommodations provided by the University must self-identify with Disability Services (208) 236-3599 in order to have accommodations provided. Information and applications are available in the Center and may be picked up in person or requested by telephone. The URL is <https://www.isu.edu/disabilityservices/>