

**IDAHO STATE UNIVERSITY**  
Department of Radiographic Science  
R.S. 3341 Laboratory Practicum II  
Course Syllabus

Instructor: Trevor Ward, MSRS, RT (R)(CT)(MR)  
Email: [wardtrev@isu.edu](mailto:wardtrev@isu.edu)  
Phone: 282-4112 or 282-4042  
Course Credit: 1 Credit  
When/Where/Times: Friday, Beckley Nursing Rm. 120

Monday 12:00 – 2:00 p.m. (sec 1)  
2:00 – 4:00 p.m. (sec 2)

Wednesday 12:00 – 2:00 p.m. (sec 3)  
2:00 – 4:00 p.m. (sec 4)

**Required Text:**

Bontrager, Kenneth L. & Lampignano, John P. (2014) Textbook of Radiographic Positioning and Related Anatomy (8<sup>th</sup> ed.) ISBN 978-0-323-08388-1

**Recommended Text:**

Bontrager, Kenneth L. & Lampignano, John P. (2014) Handbook of Radiographic Positioning and Related Anatomy (8<sup>th</sup> ed.) ISBN 978-0-323-08389-8

**Course Description:**

This course is structured to provide you with the practical application of theory and principles covered in R.S. 3311. Students will learn hands on skills of how to practice as a Radiologic Technologist. Students will simulate real world scenarios performing x-ray exams on phantoms. Students will be able to define radiographic positioning terms, manipulate equipment properly, position and align anatomical structure and equipment, and evaluate images for proper demonstration of anatomy and pathology.

**Course Learning Objectives/Goals:** This semester students will practice routine positions utilized for the lower limb, femur, pelvic girdle, cervical, thoracic, and lumbar spine, and the gastrointestinal system. In lecture at the beginning of each week, you will be introduced to pertinent anatomy and the radiographic positions to be covered that week in lab. Students will be given the opportunity during laboratory time to position fellow students, but there will be no radiation exposure to each other. Image critique and laboratory participation will be passed off by the instructor prior to the end of each lab. Upon completion of the course the student will be ready to perform the exams in a clinical setting.

**Course Schedule:**

Lab content each class period will reflect lecture content given that week.

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

**IDAHO STATE UNIVERSITY**  
 Department of Radiographic Science  
 R.S. 3341 Laboratory Practicum II  
 Course Syllabus

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. 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:**

<b>A Three Part Foundation</b>	
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
<b>The Five Competencies</b>	
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 meet the competency or skill set described above.

**Course Learning Outcomes:**

**Chapter 6 Lower Limb**

<b>Upon completion of this chapter the student will be able to:</b>	<b>SCANS</b>
Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the lower limbs.	1,2,3,4,5,6,7,8
Determine the appropriate exposure values for lower limb radiography performed as table top exams.	1,2,8
Expose phantoms for lower limb radiography for the following exams: digits, foot, calcaneus, ankle, and tibia/fibula, knee, sunrise, and intercondylar fossa.	1,2,4,5,6,7,8
Simulate the following positions: AP weight-bearing, Rosenburg method, Camp Coventry, Holmblad, Merchant method, Settegast method, Hughston method, Superoinferior sitting tangential method of the knee.	1,2,3,4,5,6,7,8
Determine the correct cassette size, patient ID window placement, and marker placement.	1,2,6

**IDAHO STATE UNIVERSITY**  
 Department of Radiographic Science  
 R.S. 3341 Laboratory Practicum II  
 Course Syllabus

Position a lab partner and IR properly according to body habitus.	1,2,3,5
Determine the correct exposure factors of (kV, time, mA) according to accepted methods.	1,2,6
Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.	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 7 Femur and Pelvic Girdle**

<b>Upon completion of this chapter the student will be able to:</b>	<b>SCANS</b>
Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the femur and pelvic girdle.	1,2,3,4,5,6,7,8
Determine the appropriate exposure values for femur and pelvic girdle radiography.	1,2,8
Expose phantoms for a femur and pelvic girdle in the following positions: AP and lateral femur, AP pelvis, Modified Cleaves method, pelvic inlet and outlet (Taylor method), Judet method, Danelius-Miller method, unilateral frog, Clements-Nakayama method.	1,2,4,5,6,7,8
Determine the correct cassette size, patient ID window placement, and marker placement.	1,2,6
Position a lab partner and IR 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, time, mA) according to accepted methods.	1,2,6
Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.	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 8 Cervical and Thoracic Spine**

<b>Upon completion of this chapter the student will be able to:</b>	<b>SCANS</b>
Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the cervical and thoracic spine. This will include all routine and non-routine positions.	1,2,3,4,,6,8
Determine the appropriate exposure values for spine radiography performed in and outside of a bucky utilizing AEC and manual techniques.	1,2,8
Expose phantoms for cervical and thoracic radiography in the following positions: AP, RPO, LPO, x-table lateral, breathing technique lateral thoracic spine, swimmers.	1,2,6,8
Position a lab partner and IR properly according to body habitus.	1,2,3,5
Determine the correct cassette size, patient ID window placement, and marker	1,2,6

**IDAHO STATE UNIVERSITY**  
 Department of Radiographic Science  
 R.S. 3341 Laboratory Practicum II  
 Course Syllabus

placement.	
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, time, mA) according to accepted methods.	1,2,6
Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.	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 9 Lumbar Spine, Sacrum, and Coccyx**

<b>Upon completion of this chapter the student will be able to:</b>	<b>SCANS</b>
Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the lumbar spine, sacrum and coccyx. This will include all routine and non-routine positions.	1,2,3,4,,6,8
Determine the appropriate exposure values for spine radiography performed in and outside of a bucky utilizing AEC and manual techniques.	1,2,6
Expose phantoms for lumbar spine, sacrum coccyx radiography and obtain acceptable radiographs approved by the course instructor.	1,2,6,8
Position a lab partner and IR properly according to body habitus.	1,2,3,5
Determine the correct cassette size, patient ID window placement, and marker placement for CR and analog systems.	1,2,6
Manipulate the radiographic tube for routine and non-routine positions including cross table positioning.	1,2,6
Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.	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 12 Biliary Tract and Upper Gastrointestinal System**

<b>Upon completion of this chapter the student will be able to:</b>	<b>SCANS</b>
Manipulate the x-ray phantoms and peers into appropriate positions for routine and non-routine, radiographic examination of the biliary and upper gastrointestinal systems.	1,2,3,4,,6,8
Determine the appropriate exposure values for the biliary and upper gastrointestinal systems.	1,2,6
Expose phantoms for the exams presented in this chapter (minus contrast) and obtain acceptable radiographs approved by the course instructor.	1,2,6,8
Position a lab partner and the IR properly according to body habitus.	1,2,3,5

**IDAHO STATE UNIVERSITY**  
 Department of Radiographic Science  
 R.S. 3341 Laboratory Practicum II  
 Course Syllabus

Determine the correct cassette size, patient ID window placement, and marker placement for CR and analog systems.	1,2,6
Manipulate the radiographic tube for routine and non-routine positions including cross table and axial positioning.	1,2,6
Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.	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

**Dress Requirements:**

Students will be required to wear scrubs. Do not wear belts, jewelry, or any objects that may inhibit the learning opportunity. If scrubs are not worn a deduction of 100 points for the lab may be given. Lockers are available for students to use and will be assigned by the secretary if you request.

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

**Code of Ethics:** RS 3340 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 3340 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.

**IDAHO STATE UNIVERSITY**  
Department of Radiographic Science  
R.S. 3341 Laboratory Practicum II  
Course Syllabus

***What does this mean:*** I have allowed 'printed material' from the Web site to be available to the student. This can present problems if not used properly. Material from quizzes and tests should be used for your OWN study endeavors. Because the quizzes are open book, you should not obtain the answers from other students prior to taking the quizzes. This defeats the intended learning methodology. Also, **DO NOT** obtain material (quizzes and tests) from previous students who have taken this course. I will consider this cheating and could result in an automatic 'F' for the quiz and the course. You may print the quizzes at your discretion, but I do not allow printing of tests. Additionally tests cannot be reviewed after they have been taken except in my presence. Failure to follow these instructions will result in a failure of the course.

***When students submit their efforts for grading, they are attesting that they have abided by these rules.***

**Classroom Procedure**

1. **Attendance:** You are expected to attend lab 100% of the time during your scheduled section. If something urgent arises you may trade lab sections with another student. **There are no make-up sessions for missed labs, if you miss it you will receive a 0.**

2. **Grading Procedure**

**Grades will be weighted as follows:**

Students will be graded on participation for each lab (100 points per lab) by completing the activities outlined for each lab. There will be **five** lab tests given throughout the semester including the final. These tests will allow students to demonstrate to the instructor their competence in performing x-ray examinations.

Each lab test students will perform 4 exams from anatomy chosen out of 4 different boxes. Students will be timed and graded on a scale of how well they perform in each category for a total of 19 points. The categories students will be graded on are as follows: Patient safety, communication, film size/type, tube/part/film alignment, patient position, SID, collimation, marker, blocker, technical selection/technique/grid selection, radiation protection, and film exchange.

\*Reminder: This semester repeats on lab tests are now 5 points deduction instead of 2.5 points. Also, if you do not perform a cassette exchange, it will count as a repeat for 2 positions.

3. **Grading:**

<b>ASSESSMENT METHOD</b>	<b>PERCENTAGE VALUE</b>
<b>Lab Participation</b>	25%
<b>Lab Test #1</b>	15%
<b>Lab Test #2</b>	15%
<b>Lab Test #3</b>	15%
<b>Lab Test #4</b>	15%
<b>Lab Test #5</b>	15%

**IDAHO STATE UNIVERSITY**  
Department of Radiographic Science  
R.S. 3341 Laboratory Practicum II  
Course Syllabus

4. **Final Grade:** 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.*

5. **Radiation Monitoring:** You are to wear your TLD during each lab session. Failure to wear your TLD will result in you being required to remain OUTSIDE of the lab during each radiographic exposure.

6. **Cell phone policy:** Cell phones should not be used in class. They should be placed in silent or vibrating mode or turned off. Additionally receiving and retrieving text messages should not occur during class or in labs. Failure to follow this policy will result in a deduction of grade up to 10% at the discretion of the instructor. 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 (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 <http://www.isu.edu/ada4isu/>