IDAHO STATE UNIVERSITY
Department of Radiographic Science
R.S. 4441, Advanced Radiographic Methods I
Course Syllabus

Course Credit:	1 Credit
Time and Location:	Tuesday 3:00 p.m. – 3:50 p.m. NURS Rm 120
Instructor:	Breezy Bird, MHA, RT(R)(M)
Phone:	208-282-4112 or 208-282-4042 (Alyssa, Admin)
Email:	breezybird@isu.edu
Contact Info:	Please contact by email for emergent needs. All email correspondence will be answered within 24 hours (excluding weekends and breaks).
Office Hours:	I would love to meet with you. Available by appointment or Zoom.

Overview:
This class will explore the advanced methodology, theory and principles of radiographic procedures. It will cover trauma radiography and will also develop the students understanding of specialized radiographic examinations such as arthrography, hysterosalpingography, myelography, sialography, orthoroentgenography and some operative procedures. Radiographic terminology, anatomy, and some common findings in pathology will be integrated.

Required Text:
Bontrager, Kenneth L. & Lampignano, John P. (2018) Textbook of Radiographic Positioning and Related Anatomy (9th ed.) ISBN 978-0-323-399966-1

OR

Bontrager, Kenneth L. & Lampignano, John P. (2020) Textbook of Radiographic Positioning and Related Anatomy (10th ed.) ISBN 978-0-323-65367-1

Recommended Text:
Bontrager, Kenneth L. & Lampignano, John P. (2020) Handbook of Radiographic Positioning and Related Anatomy (9th ed.) ISBN 978-0-323-48525-8

Method of Presentation: Lecture, PowerPoint, Radiographs, Handouts

Code of Ethics: RS 4441 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.

Course Learning Objectives/Goals: This course has been designed to give the student the opportunity to review the anatomy of the entire skeletal system. Additionally, students will expand their appreciation for the technical aspects of radiology by an in-depth study of fractures and positions utilized in trauma radiography. The course will culminate with an in-depth study of the operating room, C-arm, and additional diagnostic studies which in the past have been categorized as special procedures.

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. 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 meet the competency or skill set described above.

Course Learning Outcomes:
Chapter 14 Urinary System and Venipuncture

Upon completion of this chapter the student will be able to:	**SCANS**
On drawings and radiographs, identify specific urinary system anatomy.	1,2,4,6,8
Identify ***anatomy and positioning*** routines for urinary system exams, with emphasis placed on contrast media and urography.	1,2,4
Describe the following diagnostic procedures: Intravenous urography, nephrogram, nephrotomogram, hypertensive intravenous urography, retrograde urography, retrograde cystography, voiding cystourethrography, retrograde urethrography.	1,2,6

Chapter 15 Trauma, Mobile, and Surgical Radiography

Upon completion of this chapter the student will be able to:	**SCANS**
On drawings and radiographs, identify specific skeletal anatomy of the entire skeleton.	1,2,4,6,8
Identify ***anatomy and positioning*** routines for ALL upper and lower extremity exams, chest, bony thorax, abdomen, skull, and facial bones, with emphasis placed on	1,2,4

special imaging positions for these exams.	
Describe the types of mobile x-ray systems available for bedside and emergency radiography.	1,2,4,
Develop an understanding of a mobile C-arm digital fluoroscopy system and define the following terms: magnification mode, roadmapping, scout fluoro, process fluoro, boost digital spot.	1,2,6
List the exposure levels and patterns when the C-arm is placed in the PA, AP, and horizontal positions and determine the orientation that yields the greatest dose and the least dose to the operators.	1,2,6
Evaluate and describe the 3 positioning principles for trauma and mobile radiography.	1,2,6
Describe common trauma and fracture terminology including but not limited to dislocations, sprain, fractures, and types of fractures, specific named fractures, and post reduction radiographs	1,2,6
Memorize the Salter Harris classification of fractures.	1,2,3,4,6
Identify the positions, CR relationship, angulation, and evaluation criteria for all of the exams presented in this chapter.	1,2,3,4,6,8
Present a PowerPoint presentation to the class on one of the fractures presented in the chapter.	1,2,3,4,5,6,7,8
Describe the essential attributes of a surgical technologist.	1,2,6
List the members of a surgical team.	1,2
Review the principles of surgical asepsis.	1,2,4
Describe the process of placing a sterile field around a C-arm.	1,2,4,6
Identify the process of passing an IR from a non-sterile environment to a sterile environment.	1,2,5
Describe several methods that can be used in the OR to reduce exposure to the surgical team.	1,2,3,4,6,7
List several surgical procedures that are performed with the C-arm.	1,2,6
Review the following surgical radiographic procedures: Operative (immediate) cholangiogram, laparoscopic cholecystectomy, retrograde urography, and orthopedic procedures.	1,2,4,6
Explain the meaning of closed reduction, open reduction, internal fixation, external fixation, and intramedullary fixation.	1,2,6
Describe the imaging equipment used for the setup for a hip fracture.	1,2,6
Identify the differences radiographically between a total hip replacement and a hip pinning.	1,2,6
Describe the set up for an intramedullary nail or rodding procedure.	1,2,6
Describe the set up for a laminectomy procedure in the cervical, thoracic, and lumbar spine.	1,2,6
Determine the meaning of spinal stenosis and spinal fusion and explain the reason an interbody fusion cage might be used during a procedure in the OR.	1,2,6
Describe a microdiskectomy, vertebroplasty, kyphoplasty, and scoliosis corrective surgery.	1,2,6
Identify the different types of pacemakers.	1,2,6

Chapter 19 Special Radiographic Procedures

Upon completion of this chapter the student will be able to:	**SCANS**
On drawings and radiographs, identify specific anatomy of the biliary system, female reproductive system, spinal cord, salivary glands and ducts, and joints of the shoulder and knee.	1,2,4,6
Describe the following diagnostic procedures: Knee arthrography, shoulder arthrography, t-tube cholangiography, ERCP, hysterosalpingography, myelography, sialography, orthoroentgenography, conventional tomography.	1,2,6
Identify the purpose, pathologic indicators, contraindicators, patient preparation, major equipment, accessory equipment, needle placement and injection process, contrast media used, and fluoroscopic and/or overhead imaging used for all of the procedures listed in this chapter.	1,2,4,6,7,8

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 4441 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.

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 class to get the most benefit. Your grade will suffer if you miss class without a doctor's not or legitimate excuse that is communicated to the instructor beforehand. Class attendance is worth 25% of the overall grade. Quizzes are worth 50% and you have to be present in class to receive credit for the in-class quizzes.

You are expected to attend class via Zoom if you are quarantined due to Covid exposure.

2. **Quizzes:** This course will include assigned quizzes and in-class Kahoot reviews.

3. **Grading Procedure:**

Assessment Method	Percentage Value
Complex fracture presentation	25%
Class attendance and participation	25%
Quizzes, assignments and PowerPoint presentations	50%

This grading Scale will be used:

+/- 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.

The minimum requirements to earn a passing grade are successful completion of all tests (70% minimum). Tests and Quizzes will be a combination of either written or computer based. Tests will be scheduled to be taken in a computer lab on campus. The lab in the nursing building on the ground floor is the lab I try to schedule for tests; however, the Turner Lab is close to our classroom, and is the one I will try to schedule if the nursing building lab is not available. It is the student's responsibility to know when and where tests are scheduled. Dates are posted in the Web Course Calendar and reminders will be given in class. Students are required to use a lab computer when testing.

3. **Computer Account:** All students are required to have an ISU student computer account. There is a fee required for this account. Obtain the account at the Computer Center, which is located in the basement of the College of Business Building or in the Rendezvous Lab.

4. **Make-up:** If you are unable to sit for an examination, you may request a make-up exam. There will be no makeup tests unless you have PREARRANGED this with me **PRIOR** to the test deadline. You must provide an acceptable excuse at my discretion. An acceptable excuse is defined **as very** sick (doctor's note); a death in the immediate family; or some **unforeseen** circumstance that would prohibit you from taking the exam. The key is to communicate with me directly via email, phone, or in person. Do not speak to another faculty member or the department secretary. I'm very easy to catch with email, but make sure your email is received by me prior to the test deadline. In the event that a TEST date needs to be changed, there will be a 10% grade penalty assessed unless it is the result of an acceptable excuse a listed above.

Make-up credit **will not** be given for missed Quizzes unless notification is given to me in advance. You are expected to attend class via Zoom if you are quarantined due to Covid exposure.

In addition, it is a requirement to take all tests offered during the semester. An incomplete will be issued for the class if a test is not taken.

Workbook: While I will not routinely give workbook assignments, I encourage students to keep up with the corresponding chapter in the workbook. I routinely pull questions from the workbook for my tests.

Cell phone policy: Cell phones should not be used in class. They should be place 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 (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/

COVID: Idaho State University requires all **faculty, staff, and students to wear face coverings indoors**—regardless of vaccination status—unless alone in a private office, campus residence, or workspace. This on-campus face covering requirement for indoor spaces will be reviewed every two weeks and removed as the local situation improves. This precaution will allow us to maintain a safe classroom environment, continue face-to-face instruction, and meet our shared duty to care for others in our community.

The University also strongly encourages all individuals to **receive a COVID-19 vaccine**. Students who are experiencing COVID-19-like illness should NOT come to class and should contact the COVID Health Committee at **COVID@health.isu.edu** or (208) 282-2705. All confirmed cases of COVID-19 should be provided to the COVID Health Committee on the **self-reporting form**. All students are required to fully participate in the university's contact tracing process and follow all instructions related to quarantine and isolation.