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AHXR 140.01: Radiological Methods

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MISSOULA COLLEGE, UNIVERSITY OF MONTANA

RADIOLOGIC TECHNOLOGY PROGRAM
DEPARTMENT OF HEALTH PROFESSIONS

AHXR 140 Radiographic Methods & AHXR 141 Radiology Lab

Fall 2018

Credits: 3 (AHXR 140) + 1 (AHXR 141)

Instructor: Graham Barnes, RT(R)(CT)

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Office:

Office Hours Monday 8-10 am or by
appointment

COURSE DESCRIPTION

In AHXR 140, through in-class lectures and on-line modules, students will learn basic radiological positioning. The course provides an introduction to the anatomical landmarks used to position patients, while giving attention to specific patient considerations, such as: culture, communication, and transport/transfer.

In AHXR 141, students will apply positioning principles in the lab setting, gaining familiarity with the equipment used to perform diagnostic imaging studies and practicing the methods and positions required to obtain images.

Please see the end of this document for a weekly class schedule.

PREREQUISITES: Students must have completed all general Program prerequisites.

REQUIRED TEXT: Textbook of Radiologic Positioning & Related Anatomy: 9th Edition, 2014, by John Lampignano & Leslie Kendrick. ISBN: 9780323481274

OPTIONAL SUPPLEMENT: Bontrager's Pocket Guide to Radiography

ON-LINE RESOURCES: <http://evolve.elsevier.com/enroll> Course ID: 99388_gbarnes65_1001

STUDENT ASSESSMENT AND GRADING

Final grades for AHXR 140 are based on the on-line module quizzes and tests, the classroom tests, a comprehensive final exam, and class participation/attendance.

• On-line module quizzes	20%	Grading Scale:
• On-line module tests	20%	100 – 90 = A
• Class participation	20%	89 – 80 = B
• Classroom tests	20%	79 – 70 = C
• Comprehensive final exam	20%	69 – 60 = D

Final grades for AHXR 141 will be based on lab attendance and lab quizzes.

Note: Students must pass these courses with a "B" (80%) to remain in the Radiology Technology Program.

Required immunizations, hospital scrubs & markers

Prior to beginning the clinical experience, students are required to document several immunizations & obtain a set of hospital scrubs and x-ray markers. Details provided in class.

Academic Conduct

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or disciplinary sanction by the University.

All students need to be familiar with the Student Conduct Code. The Code is available for review online at <http://www.umt.edu/SA/VP/SA/index.cfm/page/1321>.

STUDENTS WITH DISABILITIES: Eligible students with disabilities will receive appropriate accommodations in this course when requested in a timely way. Please be prepared to provide a letter from your DSS Coordinator.

ATTENDANCE POLICY: All students are expected to come to class each, on time. Cell phones must be turned off. Constructive participation is expected. Disruptive behavior will not be tolerated.

**Syllabi are subject to change*

STUDENT PERFORMANCE OUTCOMES

Upon completion of this course, the student will be able to:

1. Describe standard positioning terms
2. Demonstrate proper use of positioning aids
3. Discuss general procedural considerations for radiologic examinations
4. Identify the location of structures using directional and orientation terms
5. Indicate where various planes lie in relation to the body
6. Identify and locate the bones of the human skeleton
7. Identify bony processes and depressions found on the human skeleton
8. Differentiate the primary and secondary curves of the spine
9. Describe sesamoid bones and locate examples on radiographs
10. Summarize the functions of the skeletal system
11. Label different types of articulations
12. Compare the types, locations and movements permitted by the different types of articulations
13. Demonstrate the use of topographical landmarks to locate internal structures
14. Identify major anatomical structures found within sectional images.
15. Adapt general procedural considerations to specific clinical settings
16. Cite the structures demonstrated on routine radiographic/fluoroscopic procedures.
17. Adapt radiographic, fluoroscopic and basic CT procedures based on special considerations
18. Simulate radiographic, fluoroscopic, and basic CT procedures on a person or phantom in a laboratory setting
19. Evaluate images for positioning, centering, appropriate anatomy and overall image quality
20. Discuss equipment and supplies necessary to complete radiographic, fluoroscopic and basic CT procedures
21. Recite the patient preparation necessary for various contrast and special studies
22. List and explain the routine and special views for all radiographic and fluoroscopic procedures
23. Explain the purpose for using negative and positive contrast media agents.
24. Distinguish between the types and purpose for various upper and lower gastrointestinal studies
25. Identify methods that may be utilized for modifying directions when communication barriers during patient education
26. Explain radiographic procedures to patients and family members
27. Develop an awareness of cultural factors that necessitate adapting standard exam protocols
28. Apply general radiation safety and protection practices associated with radiologic examinations and basic CT
29. Demonstrate correct principles of body mechanics applicable to patient care
30. Demonstrate techniques for specific types of patient transfer
31. Demonstrate select procedures for examining patients with various health conditions

AHXR 140 Weekly Class Schedule

Week	READING ASSIGNMENT	Module Assignment/Due date
August 29	Class Introduction & lab sections	Enroll in on-line class
September 5	Bontrager Chap 1: Terminology, positioning, principles	Purchase textbook, complete Modules for Chapter 1 including quizzes and the test. These are due Sept 12
September 12	In class lecture on Chap 1 Read for next week: Chapter 2 Bontrager: Chest	Modules for Chapter 2 including quizzes and the test are due Sept 19
September 19	In class lecture on Chap 2 Read for next week: Chapter 4: Upper extremities	Modules for Chapter 4 including quizzes and the test are due Sept 26
September 26	In class lecture on Chap 4 Test review Chapters 1, 2 & 4	Study for test!
October 3	On line (Moodle) test on Chapters 1, 2, & 4 Read for next week: Chap 5, Humerus, shoulder	
October 10	In class lecture on Chap 5 Read for next week: Chap 6, Lower Extremities	Modules for Chapter 5 including quizzes and the test are due Oct 17
October 17	In class lecture on Chap 6 Test review Chapters 5 & 6	Modules for Chapter 6 including quizzes and the test are Due Oct 24 Study for test!
October 24	In-class test on Chapters 5 & 6 Read for next week: Chap 7, Femur & Pelvis	
October 31	In class lecture on Chap 7 Read for next week: Chap 3: Abdomen	Modules for Chapter 7 including quizzes and the test are Due Nov 7
November 7	In class lecture on Chap 3 Test Review on Chapters 3 & 7	Modules for Chap 3 including quizzes and the test are Due Nov 14 Study for test!

November 14	In-class Test on Chapters 3 & 7 Read for next week: Chap 8: C spine & T spine	
November 21	Travel Day- No class Read for next week: Chap 9: L Spine, sacrum, coccyx	Modules for Chap 8 including quizzes and the test are Due Nov 27
November 28	In class lecture on Chap 8 In class lecture on Chap 9	Modules for Chap 9 including quizzes and the test are Due Dec 4
December 4	Test review for Chapters 8 & 9	Study for test
December 11	In-class Test on Chapters 8 & 9 Last Day of Class	Study for final

December 10-14 Finals Week

AHXR 141 Weekly Lab Schedule

Week of

August 29	class overview
September 5	Equipment operation & positioning terms
September 12	Equipment practice & chest x-rays
September 19	Chest x-rays practice & patient interaction
September 26	Upper extremities
October 3	Lab Quiz on Chest X-rays & upper extremities
October 10	Humerus & shoulder
October 17	Lower extremities
October 24	Lab quiz on humerus, shoulder & lower extremities
October 31	Femur & pelvis
November 7	Abdomen
November 14	Lab quiz on femur, pelvis & abdomen
November 21	Thanksgiving break this week
November 28	C-Spine x-rays
December 5	L-spine x-rays/ Lab quiz on C & L spine