

**University of Arkansas – Fort Smith**

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**General Syllabus**

**RADT 2412 Radiographic Procedures IV**

**Credit Hours:** 2      **Lecture Hours:** 1      **Laboratory Hours:** 2

**Prerequisites:** RADT 1312 Radiographic Procedures III

**Prerequisite or corequisite:** ENGL 1213 Composition II, PSYC 1163 General Psychology, or SOCI 2753 Introduction to Sociology

**Corequisites:** RADT 2424 Clinical Education IV and RADT 2432 Principles of Radiation Biology/Protection

**Effective Semester:** Fall 2013

**I. Course Information**

**A. Catalog Description**

A continuation of RADT 1312 Radiographic Procedures III. Designed to provide the student with the knowledge and skills necessary to perform standard radiographic procedures. Routine and special procedures to include the abdomen, urinary tract, and binary tract, as well as fluoroscopic exams of the gastrointestinal tract, will be presented.

**B. Additional Information**

**II. Student Learning Outcomes**

**A. Subject Matter**

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

1. List and describe the anatomy of the upper and lower gastrointestinal tract.
2. Given drawings and radiographs, locate anatomic structures and landmarks of the GI tract.
3. Explain patient preparation for each examination.
4. Explain the rationale for each projection.
5. Describe the positioning used to visualize anatomic structures of the GI tract.
6. List and identify the central ray location and identify the extent of field necessary for each projection.
7. Explain the protective measures that should be taken for each projection.
8. Recommend the technical factors for producing an acceptable radiograph for each projection.
9. State patient instructions for each projection.
10. Given radiographs, evaluate positioning and technical factors for radiographs of the GI tract.

11. Describe modifications for procedures for atypical or impaired patients to better demonstrate the anatomic area of interest.
12. List and describe the basic anatomic components of the urinary system.
13. Given drawings and radiographs, locate anatomic structures of the urinary system.
14. List four common clinical indications for imaging the urinary system.
15. Explain why it is necessary to use radiographic contrast media to image the urinary system.
16. List the two main categories of radiographic contrast media used in intravenous urography and the factors determining their use.
17. Discuss adverse patient reactions to radiographic contrast and list the medical responses necessary for each.
18. Describe the preparation for each urinary procedure for both typical and atypical patients.
19. Describe the positioning used in imaging the urinary system.
20. List or identify the central ray location and identify the extent of field necessary for each projection.
21. Given radiographs, evaluate positioning and technical factors for radiographs of the urinary system.
22. Given radiographs, locate anatomic structures and landmarks of the urinary system.
23. Recommend the technical factors for producing an acceptable radiograph of the urinary system.
24. Describe the modifications of procedures for atypical or impaired patients to better demonstrate the anatomic area of interest.
25. Define contrast arthrography.
26. List joints that might be imaged with contrast arthrography.
27. Explain the procedural steps.
28. Describe and locate the injection site for knee, wrist, hip, shoulder, and TMJ arthrography.
29. State the type of contrast media use for each of the above contrast arthrography procedures.
30. List the common projections made of the knee, wrist, hip, shoulder, and TMJ during contrast arthrography.
31. Explain the principles of mobile radiography.
32. Discuss proper patient positioning for mobile projections.
33. Describe the fundamental operation of CT.
34. List the basic components of a CT scanner.
35. Explain the contrast media in CT procedures. Describe and recognize anatomy of the central nervous system.
36. Explain myelography and its application in imaging of the central nervous system.
37. Discuss the use of CT imaging of the central nervous system.

## **B. University Learning Outcomes**

This course enhances student abilities in the following areas:

### **Analytical Skills**

Students will use analytical/critical thinking skills to draw conclusions and/or solve problems associated with positioning the patient for all exams of the digestive and urinary system.

**Technological Skills**

Students will use appropriate technology to efficiently access, communicate, analyze and evaluate radiographic images for all exams of the digestive and urinary system.

**Ethics**

Students will apply ethical standards in relation to patient information.

**III. Major Course Topics**

- A. Routine and Special Projections for the Abdomen, Biliary Tract, and Urinary System
- B. Routine and Special Projections for Fluoroscopic Exams of the Gastrointestinal System
- C. CT
- D. Myelography
- E. Arthrography
- F. Mobile Studies