

MASTER SYLLABUS

COURSE NUMBER AND TITLE:

RAD 322-3 Radiographic Contrast and Sectional Anatomy

COURSE DESCRIPTION:

An introduction to the use of radiopharmaceuticals for enhancement of various anatomical structures within the human body. Includes coverage of common types of contrast agents, their administration, their physiological effects on various organ systems, and emergent treatment. Sectional anatomy includes the study of body structures in the coronal, sagittal and transverse planes, used in computed tomography (CT) and magnetic resonance imaging (MRI). Emphasis will be placed on 1) identifying the imaging plane; 2) identifying the anatomy visualized in a given plane; and, 3) differentiating between images produced by CT and MRI.

COURSE OBJECTIVES:

1. Define the terminology used in venipuncture.
2. Define the terminology used in sectional imaging.
3. Discuss the concepts of venipuncture sites.
4. List and describe the physiological effects of intravenous use of a contrast agent.
5. Identify the functions and restrictions of the contrast agents used in imaging procedures.
6. Demonstrate the concepts of sterile technique
7. Explain the post puncture care and infection control.
8. Examine the legal ramifications of drug administration and venipuncture for imaging professionals.
9. Discuss the imaging modalities used to acquire sectional images.
10. Explain the basic physics, safety, and imaging applications used in computed tomography (CT).
11. Explain the basic physics, safety, and imaging applications used in magnetic resonance imaging (MRI).
12. Identify and label the pertinent anatomical structures of the chest/mediastinum, abdomen, pelvis, head, spine, and musculoskeletal system.

COURSE OUTLINE:

| | PERCENTAGE: |
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| 1. Terminology | 10% |
| 2. Anatomy and physiology of venipuncture sites | 5% |
| 3. Infection control | 5% |
| 4. Contrast agents as pharmaceuticals | 10% |
| 5. Patient care pre- and post-venipuncture | 10% |

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| 6. Contrast agent reactions and patient care | 10% |
| 7. Legalities of venipuncture | 10% |
| 8. CT imaging basics | 10% |
| 9. MRI imaging basics | 10% |
| 10. Sectional anatomy identification: CT and MRI | 20% |

MEANS OF STUDENT EVALUATION:

Grading Scale

93 - 100 = A

85 - 92 = B

75 - 84 = C

0 - 74 = F

PREQUISITE: RAD 332 with a minimum grade of C.

Co-REQUISITES: RAD 312, RAD 342 and RAD 352

TEXTBOOKS:

1. Jensen.S.C. & Peppers, M.P. (2005). Pharmacology and drug administration for Imaging Technologists, 2nd edition. St. Louis, MO: Elsevier/Mosby. ISBN-13: 978-0323030755.
2. Weir, J., Abrahams, P.H., et al. (2010). Imaging Atlas of Human Anatomy, 4th edition. St. Louis, MO: Elsevier/Mosby. ISBN-13: 978-0723434573.