RADT1140 - Radiographic Imaging

Credits:	4 (2/2/0)
Description:	This course is designed to establish a knowledge base of factors that govern and influence the production and recording of radiographic images as well as provide a basis for analyzing those images. Film and electronic imaging with related accessories will be emphasized. Included are the importance of minimum imaging standards, discussion of problem-solving techniques for image evaluation and the factors that can affect image quality. Class demonstrations/labs are used to demonstrate application. Actual images will be included for analysis.
Prerequisites:	• RADT1112 • RADT1116 • RADT1124
Corequisites:	• RADT1132 • RADT1146
Pre/Corequisites*:	
Competencies:	1. Determine practical considerations in setting standards for acceptable image quality. 2. Assess radiographic brightness on radiographic images. 3. Assess radiographic contrast/gray scale on radiographic images. 4. Analyze the relationship of factors that control and affect image brightness. 5. Analyze the relationship of factors that control and affect image contrast/gray scale. 6. Critique recorded detail/spatial resolution on various radiographic images. 7. Analyze the relationship of factors that control and affect recorded detail/spatial resolution. 8. Assess degrees of distortion on radiographic images. 9. Analyze the relationship of factors that control and affect distortion. 10. Examine uses of automatic exposure control (AEC) and how it affects the quality of images. 11. Recognize the types, functions and applications of beam limiting devices. 12. Recognize the composition and types of beam filtration devices as they relate to image quality and patient exposure. 13. Define the factors that affect the production of scattered and secondary radiation. 14. Recognize the types, functions and limitations of grids. 15. Formulate radiographic techniques to achieve optimal radiographic images. 16. Recognize the impact relationships of factors have on radiographic techniques selection. 17. Examine digital imaging characteristics. 18. Investigate key elements in digital image processing. 19. Examine the components of digital image readers. 20. Evaluate the qualities needed for digital image display and workflow. 21. Discuss the primary components of digital image processing, including malfunctions that can occur. 22. Determine the types, causes and effects of artifacts on a radiographic image. 23. Critique radiographic images.

MnTC goal areas:	None

Can be taking as a Prerequisite or Corequisite.