LSR1220 - Image Production II

Credits:	3 (2/1/0)
Description:	This course will build on and expand the student's knowledge of the factors that govern and influence the production and archival of radiographic images. A review of previously introduced technical factors will be covered with a specific focus on their impact on the digital image acquisition processes and image quality. Digital image characteristics, processing, display and image identification techniques will be covered.
Prerequisites:	• LSR1120 • LSR1140 • LSR1160
Corequisites:	• LSR1230 • LSR1240 • LSR1260 • LSR1280
Pre/Corequisites*:	
Competencies:	1. Explain spatial resolution and its importance in digital image quality. 2. Discuss the equipment-related factors (e.g., pixel features, matrix size, detector element characteristics, etc.) that influence or impact spatial resolution. 3. Describe contrast resolution and the equipment-related factors that enhance or degrade it on the digital image. 4. Discuss the exposure-related factors (e.g., dynamic range, quantum noise, etc.) that control or influence digital image signal. 5. List and describe image identification methods and associated legal considerations. 6. Summarize digital image preprocessing procedures and their contribution to image acquisition. 7. Articulate an understanding of the digital image processing (e.g., equalization, grayscale, edge enhancement, etc.) and post-processing (stitching, cropping, windowing, etc.) techniques used to create and enhance digital images. 8. Discuss and differentiate the characteristics of image display monitors. 9. Understand the importance of viewing conditions on the evaluation of the digital image. 10. Recognize and articulate the role of imaging informatics (e.g., DICOM, PACS, RIS, HIS, etc.) on image sharing and archival quality. 11. Analyze the relationship of factors that control and affect image receptor exposure, brightness, contrast, spatial resolution and distortion. 12. Critique digital images for image quality. 13. Determine corrective actions needed for sub-optimal images.
MnTC goal areas:	None

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Can be taking as a Prerequisite or Corequisite.

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