

## 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:	<ul style="list-style-type: none"> <li>• LSR1120</li> <li>• LSR1140</li> <li>• LSR1160</li> </ul>
Corequisites:	<ul style="list-style-type: none"> <li>• LSR1230</li> <li>• LSR1240</li> <li>• LSR1260</li> <li>• LSR1280</li> </ul>
Pre/Corequisites*:	
Competencies:	<ol style="list-style-type: none"> <li>1. Explain spatial resolution and its importance in digital image quality.</li> <li>2. Discuss the equipment-related factors (e.g., pixel features, matrix size, detector element characteristics, etc.) that influence or impact spatial resolution.</li> <li>3. Describe contrast resolution and the equipment-related factors that enhance or degrade it on the digital image.</li> <li>4. Discuss the exposure-related factors (e.g., dynamic range, quantum noise, etc.) that control or influence digital image signal.</li> <li>5. List and describe image identification methods and associated legal considerations.</li> <li>6. Summarize digital image preprocessing procedures and their contribution to image acquisition.</li> <li>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.</li> <li>8. Discuss and differentiate the characteristics of image display monitors.</li> <li>9. Understand the importance of viewing conditions on the evaluation of the digital image.</li> <li>10. Recognize and articulate the role of imaging informatics (e.g., DICOM, PACS, RIS, HIS, etc.) on image sharing and archival quality.</li> <li>11. Analyze the relationship of factors that control and affect image receptor exposure, brightness, contrast, spatial resolution and distortion.</li> <li>12. Critique digital images for image quality.</li> <li>13. Determine corrective actions needed for sub-optimal images.</li> </ol>
MnTC goal areas:	None

*\*Can be taking as a Prerequisite or Corequisite.*

