



**The Hashemite University**  
**Faculty of Allied Health Sciences**  
**Department of Medical Imaging**  
**Course Syllabus**

<b>Course information</b>	
<b>Course Title</b>	Digital Imaging
<b>Course Code</b>	110508342
<b>Prerequisites</b>	110508211
<b>Credit hours</b>	3 (2+3)

<b>Course Description</b>
<p>This course provides an introduction into the essential principles of computed and digital radiography and their applications in the field of medical imaging. The advantages and disadvantages of digital over screen-film radiography will also be covered in this course. The basic requirements for digital radiography systems are explained. The common various x-ray digital detectors are illustrated. Furthermore, this course provides an insight and an understanding of different digital-based imaging modalities such as; digital fluoroscopy, digital mammography, computed radiography. In addition, this course covers the different digital image pre-processing and post-processing techniques used to improve the interpretation of different medical images. This course also introduces the picture archiving and communication systems PACS system along with the hospital information system HIS and the radiology information systems RIS.</p>

<b>Course Objectives</b>
<b>By the end of this course, student is expected to:</b>
Be able to understand the differences between screen-film and digital radiography.
Be able to understand the physical and technological principles of computed radiography.
Be able to understand the various types of X-Ray digital detectors.
To get familiar with the various digital devices attached with the digital imaging systems
Be able to understand the various types of digital-based imaging modalities
To understand the standards of medical image archiving and communication among health centers.
To understand the PACS, RIS, HIS.

<b>Recommended Textbook</b>	
<b>Title</b>	Digital Radiography: An introduction
<b>Author</b>	Euclid Seeram
<b>Publisher</b>	Delmar, Cengage Learning
<b>Year</b>	2011
<b>Edition</b>	First
<b>Book website</b>	<a href="http://www.cengagebrain.co.uk/shop/search/9781401889999">http://www.cengagebrain.co.uk/shop/search/9781401889999</a>

<b>Other References</b>	
<b>Title</b>	digital radiography and PACS
<b>Author</b>	Christi Carter, Beth Veale
<b>Publisher</b>	Mosby/Elsevier
<b>Year</b>	2010
<b>Edition</b>	First

<b>Course Contents</b>
<ol style="list-style-type: none"> <li>1. Digital Radiography: An Overview</li> <li>2. Digital Image Processing Concepts</li> <li>3. Computed Radiography: Physics and Technology</li> <li>4. Digital Radiography (Indirect and direct DR)</li> <li>5. Digital Fluoroscopy &amp; Digital Mammography</li> <li>6. Introduction to computers functions in CT and MRI</li> <li>7. Picture Archiving and Communication Systems PACS</li> </ol>

<b>Assessment</b>	
<b>First Exam</b>	20
<b>Second Exam</b>	20
<b>Final Exam</b>	40
<b>Lab + In course assessment</b>	20