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

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

Course Description
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.

Course Objectives By the end of this course, student is expected to:
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 devises 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.

Recommended Textbook	
Title	Digital Radiography: An introduction
Author	Euclid Seeram
Publisher	Delmar, Cengage Learning
Year	2011
Edition	First
Book website	http://www.cengagebrain.co.uk/shop/search/9781401889999
Other References	
Title	digital radiography and PACS
Author	Christi Carter, Beth Veale
Publisher	Mosby/Elsevier
Year	2010
Edition	First

Course Contents
1. Digital Radiography: An Overview 2. Digital Image Processing Concepts 3. Computed Radiography: Physics and Technology 4. Digital Radiography (Indirect and direct DR) 5. Digital Fluoroscopy & Digital Mammography 6. Introduction to computers functions in CT and MRI 7. Picture Archiving and Communication Systems PACS

Assessment	
First Exam	20
Second Exam	20
Final Exam	40
Lab + In course assessment	20