



IMAGE ANALYSIS & RECORDING (RAD 234) 1437-1438H

A- COURSE INFORMATION:

Course Code	Course Title	Credit Units			Study Level	Pre-requisites
		Total	Theory	Practical		
RAD-234	Image Analysis & Recording	2	1	2	4 th	RAD-221
Course Coordinator		Extension		Email Address		
Dr. Mahmoud S. Babiker		None		mbabiker@taibahu.edu.sa		

B- COURSE DESCRIPTION:

The course is designed to provide basic knowledge for analyzing and recording radiographic images. Including: minimum imaging standards, discussion of a problem-solving technique for image evaluation and the factors that can affect image quality. Actual images will be included for analysis.

C- COURSE OBJECTIVES:

By the end of this course, the students will be able to:

1. Discuss the elements of a radiographic image.
2. Apply the problem-solving process used for image analysis.
3. Describe an effective image analysis method and the role of the radiographer in image analysis.
4. Apply the process for evaluating images for adequate density/brightness, contrast, recorded detail/spatial resolution and acceptable limits of distortion.
5. Summarize the importance of proper positioning and discuss the impact of patient preparation on the resulting radiographic image.
6. Analyze images to determine the appropriate use of beam restriction.
7. Identify common equipment malfunctions that affect image quality, and corrective action.
8. Differentiate between technical factor problems, procedural factor problems and equipment malfunctions.
9. Critique images for appropriate technical, procedural and pathologic factors, and employ corrective actions if necessary.

D- THEORY TOPICS:

N of Weeks	Theory Topic	Hours
1-4	Imaging Standards: Purpose, Problem-solving process, Role of the radiographer, establishing acceptable limits.	4
5-9	Image Appearance Characteristics: Density/brightness, contrast, recorded detail/spatial resolution, distortion procedural factors. Image identification, Documentation of ordered exam, Positioning, Exposure index. Centering, Radiation protection, Patient preparation, Artifacts	5
10-13	Corrective Action	4



	Equipment (Radiographic system, Fluoroscopic unit), Technical factors, Procedural factors	
14-15	Image artifacts	2

E- PRACTICAL SESSIONS:		
N of Weeks	Practical Session	Hours
1-8	Image Appearance Characteristics: Density/brightness, contrast, recorded detail/spatial resolution, distortion procedural factors. Image identification, Documentation of ordered exam, Positioning, Exposure index. Centring, Radiation protection, Patient preparation, Artifacts	18
9-15	Corrective Action Equipment (Radiographic system, Fluoroscopic unit), Technical factors, Procedural factors, Artifacts	12

F- ASSESSMENT TASKS:			
#	Type of assessment task	Week	Total Grades
1	Assignments (quizzes, seminars, ect)	Weeks 1-15	10%
2	Written Test (1)	Week 8	20%
3	Written Test (2)	Week 13	20%
4	Final Exam (practical)	Week 14	10%
5	Final Exam(theoretical)	Week 16	40%

G- LEARNING RESOURCES:
1- Required textbook: Radiologic Science for Technologists. Stewart C. Bushong. David T.Culverwell Publisher

Notes:

- Assignments topics and requirements shall be announced by the end of Week-1, the deadline for submission is 12pm Thursday of Week-10 (each semester).
- Assignments and written assessment tasks must be verified against plagiarism, the maximum acceptable percentage is determined by the department (according to each level).
- Continuous assessment methods may include quizzes, internet searches, home-works, exercises, class activity, scratch cards, presentations, group work, etc.
- Practical exams may contain hands-on experiments, laboratory work, simulations, or demonstrations.
- Written exams will include multiple-choice questions (MCQ), short essay questions, and long essay questions.