



Industrial Radiography

WELDENG 7302

Credit Hours:

3.00 - 3.00

Course Levels:

Graduate (5000-8000 level)

Course Components:

Lecture

Course Description:

Basic elements of industrial radiography, characterization of a radiographic system as a linear system, quality of radiographs, real-time radiography, microradiography, and computerized tomography.

Prerequisites and Co-requisites:

Prereq: Grad standing, or permission of instructor.

Course Goals / Objectives:

- Achieve basic understanding of main concepts and aims of radiography
 - Learn generation of X-ray and interaction of ionizing radiation with materials
 - Learn to select parameters to optimize image quality
 - Learn fundamentals of real-time radiography, microradiography and computerized tomography
 - Obtain some basic laboratory experience with radiographic testing
-

Course Topics:

- Introduction to course.
 - Generation of X-ray.
 - The effect of changing mA and kV on the X-ray spectrum.
 - Interaction of X-rays with materials.
 - Image formation and X-rays Films. Film characteristic curves and contrast sensitivity measurement.
 - Selection of Exposure Parameters. Film radiography laboratory.
 - Factors Affecting Quality of Radiographs. Inspection of welds laboratory.
 - Real-time radiography. Evaluation of radiographic systems.
 - Homework sipsia presentations and practical examples.
 - Modeling a radiographic system as a linear system.
 - Real-time radiography. Radiographyc laboratory.
 - Microradiography.
 - Introduction to computerized tomography.
 - Computerized tomography.
-

Designation:

Elective