



Bioimaging

BIOMEDE 4110

Credit Hours:

3.00 - 3.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Course Description:

Introduction to medical imaging techniques like x-ray, computed tomography, magnetic resonance and ultrasound.

Prerequisites and Co-requisites:

Prereq: 2000, Physics 1251, Math 2174, Anatomy 2220 or EEOB 2520; or permission of instructor.

Course Goals / Objectives:

- Apply the fundamentals of mathematical techniques (convolution and Fourier theory) to represent signals and images
 - Describe the physical principals of bioimaging modalities
 - Identify bioimaging instrumentation and image acquisition techniques and explain differences in imaging equipments for small animal vs. clinical applications
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Course Topics:

- Overview of bioimaging, physical and mathematical concepts
 - X-ray, CT and Nuclear imaging
 - Ultrasound
 - Magnetic resonance imaging
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Designation:

Elective