

BME358 Medical Imaging

Level: 3

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JULY

Synopsis:

This course covers various aspects of imaging, medical image processing and visualisation. Topics include X-Ray, Magnetic Resonance, Functional Infrared Thermal imaging and Ultrasonic Imaging, as well as more specialised techniques for dynamic studies of specific body functions.

Topics:

- Introduction to Medical Imaging
- Magnetic Resonance Imaging
- Ultrasound and Echocardiography
- X-Ray Computed Tomography
- Functional Thermal Imaging
- Nuclear Medicine

Textbooks:

Andrew G Webb: Introduction to Biomedical Imaging, 2nd Edition 2nd John-Wiley & Sons, Inc
ISBN-13: 9781119867739

Learning Outcome:

- Evaluate the different medical modalities available for clinical applications.
- Demonstrate specific skills in MRI, ultrasound, echocardiography, x-ray, nuclear imaging.
- Recommend suitable medical imaging techniques for the study of specific body functions.
- Improve collection and analysis of data using key mathematical concepts, methods, theories and imaging techniques necessary to support the areas of biomedical imaging.
- Select the appropriate imaging and visualization technique to help diagnose medical problems in the human body.
- Contribute effectively to discussions and decisions about the use of and developments in medical imaging techniques.
- Organize and compose a clear project report in a given format using appropriate technical language.

Assessment Strategies - Regular Semester (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	LAB REPORT 1	15
	CLASS TEST 1	15
Overall Examinable Components	Written Exam	70
Total		100

*The information listed is subject to review and change.