

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:

by Andrew G. Webb.: Introduction to Biomedical Imaging (eTextbook) John-Wiley & Sons, Inc
ISBN-13: 9781119485940

by Andrew G. Webb.: Introduction to Biomedical Imaging (eTextbook) John-Wiley & Sons, Inc
ISBN-13: 9781119485940-AA

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:

Continuous Assessment Component	Weightage (%)
LAB REPORT	15
CLASS TEST	15
Sub-Total	30

Examinable Component	Weightage (%)
Written Exam	70
Sub-Total	70

Weightage Total **100**