Sample Brief Course Description	
Course title	Medical Imaging Systems
Course code	BME 451
College	Engineering
Department / Program	Biomedical Engineering
Year/ Level	5/13
Course Type	A. ☐ University ☐ College ■ Department ☐ Others b. ☐ Required ■ Elective
Credited Hours	4
Contact Hours	(LT: 3, LB: 2, TR: 0)
Pre-requisites (if any)	BME 421
Co-requisites (if any)	---
Course description	This course covers the fundamentals of different modalities of medical imaging. Topics include the physics, instrumentation, image reconstruction concepts, hazards and safety rules and clinical uses of different imaging modalities including planar X-ray imaging, Computed Tomography (CT) imaging, Ultrasonography, Nuclear Imaging (Positron Emission Tomography PET and Single Photon Emission Computed Tomography SPECT) and Magnetic Resonance Imaging (MRI), and dose symmetry.

Course Main Objectives	• Assess, maintain and take percussions when dealing with medical imaging systems. • Write down specification of a medical image system in a tender. • Start graduate studies in the field of biomedical imaging and medical image reconstruction.
Learning Outcomes	**Knowledge and Skills:--** **1.** Identify, formulate and solve problems in the physics of x-ray, MRI and ultrasound to produce relevant medical images. **2.** Outline the recent trends and technology of medical imaging modalities
	Skills:--- 1. Design a basic medical imaging system that meets the desired needs of health, safety and economy. 2. Develop a proper method to assess the performance of different medical imaging systems.
	Values:--- 1. Communicate effectively and write lab report.