Sample Brief Course Description

Course title	Medical Informatics
Course code	BME 350
College	Engineering
Department / Program	Biomedical Engineering
Year/ Level	4/12th
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)	---
Co-requisites (if any)	---
Course description	The course introduces **Introduction to Medical Informatics**(Introduction – Medical Informatics – Bioinformatics – Health Informatics - Structure of Medical Informatics –Functional capabilities of Hospital Information System - On-line services and Off – line services

	- Dialogue with the computer), **Medical Data Storage and Automation** (Representation of Data, Data modeling Techniques, Relational Hierarchical and network Approach, Normalization techniques for Data handling - Plug-in Data Acquisition and Control Boards – Data Acquisition using Serial Interface – Medical Data formats – Signal, Image and Video Formats – Medical Databases - Automation in clinical laboratories - Intelligent Laboratory Information System – PAC) , **Medical Standards (** Evolution of Medical Standards – IEEE 11073 - HL7 – DICOM – IRMA - LOINC – HIPPA –Electronics Patient Records – Healthcare Standard Organizations – JCAHO (Join Commission on Accreditation of Healthcare Organization) - JCIA (Joint Commission International Accreditation) - Evidence Based Medicine – Bioethics) , **Recent Trends In Medical Informatics (** Medical Expert Systems, Virtual reality applications in medicine, Virtual Environment – Surgical simulation - Radiation therapy and planning – Telemedicine – virtual Hospitals - Smart Medical Homes – Personalized e-health services – Biometrics - GRID and Cloud Computing in Medicine).
Course Main Objectives	1. Understand the development of technology for support health. 2. Learn the improved healthcare methods to meet greater expectations on the health service.
Learning Outcomes	**Knowledge and Understanding:** 1. Identify basics of telemedicine and its applications. 2. Classify the technologies and standards.
	Skills: 1. Evaluate systems based on the criteria and its impact on environment and user. 2. Create the telehealth technologies for future challenges in population.
	Values: 1. Communicate effectively through teamwork.