



Sample Brief Course Description

Course title	Embedded Systems in Biomedical Engineering
Course code	BME 431
College	Engineering
Department / Program	Biomedical Engineering
Year/ Level	4/8
Course Type	A. <input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department <input type="checkbox"/> Others b. <input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective
Credited Hours	6
Contact Hours	(LT: 4, LB: 4, TR: 0)
Pre-requisites (if any)	--
Co-requisites (if any)	---
Course description	This course covers the following topics: Introduction to Embedded systems, Microprocessor & Microcontroller Classification, Embedded System Architecture, and Programming Concepts for Embedded systems, Real Time Operating Systems, and Embedded System in Biomedical Applications: Embedded implementation of physiological parameters monitoring system, Role of body sensor networks for biomedical applications, Study of wireless modules for biomedical



	applications- Case studies in medical signal and image processing, Design of embedded system for classifying and diagnosis of various diseases.
Course Main Objectives	<ol style="list-style-type: none">1. Study the fundamentals of embedded system and its hardware units.2. study the concepts of various programming models for embedded system design3. Study the development activities of real time biomedical instrumentation system for medical applications.
Learning Outcomes	Knowledge and Skills:-- <ol style="list-style-type: none">1. Understand the fundamentals of the embedded systems2. Understand Basic programming concepts of for embedded systems.
	Skills:--- <ol style="list-style-type: none">1. Describe the Basic OS fundamentals and the RTOS for embedded systems.2. Design embedded based biomedical system for remote applications.
	Values:--- <ol style="list-style-type: none">1. Communicate effectively and write lab report.