Microprocessor Systems

Code	Credit Hours
EE- 222	3-1

Course Description

This course familiarizes the students with the principles of microprocessor systems. It includes lectures (audio/video aids), written assignments/quizzes, tutorials, case studies relevant to engineering disciplines, semester project, guest speaker, industrial/ field visits, group discussion, and report writing.

Text Book:

1. Embedded Systems: Introduction to Arm® Cortex TM -M Microcontrollers (Volume 1), by Jonathan W. Valvano, 5th Edition, CreateSpace Independent Publishing Platform, 2012

Reference Book:

1. Embedded Systems: Real-Time Interfacing to Arm® Cortex TM M Microcontrollers, by Jonathan W. Valvano, 2nd Edition, Create Space Independent Publishing Platform, 2011

Prerequisites

NIL

ASSESSMENT SYSTEM FOR THEORY

Quizzes	10%
Assignments	10%
Mid Terms	30%
ESE	50%

Teaching Plan

Week No	Topics	Learning Outcomes
2	Microprocessor Systems	Bus structure DMA and interrupts Microprocessor Architecture Memory and I/O ports Addressing modes Instruction set Microprocessor programming techniques Microcontrollers Memory system design: CPU read/write timing, RAM and ROM
3-5	Interfacing	Interface requirements Address decoding and interfacing dynamic RAM Serial, Parallel, Programmed and interrupt driven I/O Direct memory access and peripheral controllers Programmable peripheral interface Universe synchronous/asynchronous receiver/transmitter and programmable interrupt controller Data communication standards
6	**MID TERM IN WEEK 9**	
9	**MID TERM EXAM**	
17-18		
19		**End Semester Exams**