



**Mehran University of Engineering and Technology, Jamshoro**  
**Department of Software Engineering**

**ORIGINAL SUBMITTED SYLLABUS**

<b>Title of Subject</b>	:	<b>Programming the Real Time systems</b>
<b>Code</b>	:	SE830
<b>Discipline</b>	:	Software Engineering
<b>Effective</b>	:	14PhD-IICT Batch and onwards
<b>Pre-requisite</b>	:	Computer & Mobile programming, Basic Electronics and Data Structures
<b>Assessment</b>	:	10% Sessional 30% Mid Semester 60% Final Semester Examination
<b>Credit Hours</b>	:	03 + 0
<b>Minimum Contact Hours:</b>		42

---

**Specific Objectives of course:**

- This course allows students to learn about real-time and quality of service system principles, understand real-time resource management and quality of service issues that arise, and construct sample applications on representative platforms. Platforms range from handheld to mobile computers. The focus is on conceptual development, prototyping, and implementation of real time systems.

**Course outline:**

- Introduction
- Real time systems, concepts
- Human centered design, Fabrication and prototyping
- Embedding sensors with computing devices
- Sensor readings, error correction, response time and latency
- Intelligent agent interfaces and context awareness
- Ubiquitous Computing and Augmented Reality
- Activity and location sensing
- Privacy in ubiquitous Computing

**BOOKS RECOMMENDED**

- Real-Time Embedded Systems: Optimization, Synthesis, and Networking *By Meikang Qiu, Jiayin Li* [Latest Edition]
- Ubiquitous Computing: Smart Devices, Environments and Interactions *By Stefan Poslad* [Latest Edition]
- Embedded and Multimedia Computing Technology and Service: (Lecture Notes in Electrical Engineering) Latest Edition *By James J. Jong Hyuk Park (Editor), Young-Sik Jeong (Editor), Sang Oh Park (Editor), Hsing-Chung Chen (Editor)*

---

**Approval:**

Board of Studies:	Res.No.02.02	Dated:23-10-2017
AS&RB:	Res.No.13.5	Dated:03-04-2018
Academic Council:	Res.No.92.15	Dated:23-04-2018