

COMP 306- Embedded Systems

No. of Lecture Hrs./Week: 3 + 1 (Contract Hour)

Credit: 3

Total No. of Lecture Hrs: 45

Contents:

Chapter 1. History and overview of embedded systems

Chapter 2. Fundamentals of embedded systems

2.1 What is Embedded System?

2.2 System Architecture

2.3 Specialties of Embedded Systems

2.4 Categories of Embedded Systems

2.5 Recent Trends in Embedded Systems

Chapter 3. Hardware architecture

3.1 Central Processing Unit

3.2 Memory

3.3 Clock Circuitry

3.4 Chip Select

3.5 Input/output Devices

3.6 Communication Interfaces

3.7 Power Supply Unit

Chapter 4. Software Architecture

4.1 Services Provided by an Operating System

4.2 Architecture of Embedded Operating Systems

4.3 Categories of Embedded Systems

4.4 Application Software, Communication Software, Development/Testing Tools

4.5 Communication Software

Chapter 5. Programming for embedded systems

5.1 Overview of C

5.2 Memory Management

5.3 Device Drivers

5.4 Code Optimization

5.5 Programming in Java

Chapter 6. Software Engineering considerations

6.1 Development Process Model

6.2 Requirements Engineering

6.3 Design

6.4 Implementation

6.5 Integration and Testing

Chapter 7. Embedded Operating systems.

7.1 Overview of the Operating Systems

7.2 Operating Systems Types

Chapter 8. Communication Interfaces

Chapter 9. Hardware Platforms

Chapter 10. Representative Embedded Systems

Text Books:

Embedded/Real Time Systems. Concepts, Design and Programming Black Book - A Dr.
K.V.K.K Prasad.