

**EMBEDDED SYSTEMS LAB****Course Code: 13EC2215****L P C  
0 3 2****Course Outcomes**

At the end of the course the student will be able to

CO1: Generate arbitrary wave forms with 8051 Microcontroller.

CO2: Develop assembly language programs with ARM Processor  
Microcontroller.

CO3: Design of Interface peripheral devices with 8051 and ARM  
Microcontrollers.

CO4: Design and implementation of serial communication by using  
8051 and ARM Microcontrollers.

CO5: Develop simple RTOS programs.

**8051 experiments:**

1. Pulse width modulation
2. Sine wave generation using look-up table
3. Serial communication
4. Interfacing LCD /seven segment display unit
5. Stepper motor control

**ARM experiments:**

1. Arithmetic operations
2. LEDs
3. Serial communication
4. LCD interface
5. ADC
6. Keyboard interfacing

**RTOS programming:**

1. Multitasking using RTOS.
2. Implement semaphore for task switching using RTOS.
3. Implement priority scheduling and OS time delay functions by writing 3 different tasks
4. Transfer data using Ethernet port.