



## Lahore University of Management Sciences

### EE324: Microcontroller and Interfacing Lab

Fall 2017-2018

#### Course Catalog Description

This course deals with the practical concepts related to the use of microcontrollers and embedded controllers in industrial applications. This course provides sufficient knowledge to the students to use microcontrollers to sense the real world quantities, analyses the data, and to use the results to perform control functions. This course will provide sufficient foundation for the students to pursue further studies in a number of 'state-of-the-art' areas related to computer design and architecture at the senior (undergraduate) as well as the graduate levels.

#### Course Details

Credit Hours	1
Core	Core Course for Electrical Engineering
Elective	
Open for Student Category	BSc. students
Closed for Student Category	

#### Course Prerequisite(s)/Co-Requisite(s)

Pre-requisites: EE220, Basic Programming Course  
Co-requisites: None

#### Course Offering Details

Lecture(s)	Nbr of Lec(s) Per Week	2	Duration	50 min	Timings and Venue	
Recitation (per week)	Nbr of Rec (s) Per Week	x	Duration			
Lab (if any ) per week	Nbr of Session(s) Per Week	x	Duration			
Tutorial (per week)	Nbr of Tut(s) Per Week	x	Duration			

Instructor	Farasat Munir & Jahangir Ikram
Room No.	
Office Hours	
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Telephone	
Secretary/TA	
TA Office Hours	
Course URL (if any)	LMS



## Lahore University of Management Sciences

EE324 Course Learning Outcomes	
CLO1:	Design embedded systems using microcontrollers with sensors and actuator.
CLO2:	Implement embedded systems using microcontrollers with sensors and actuator
CLO3:	Demonstrate Use Modern analysis and simulation software for Embedded
CLO4:	Devise embedded systems based solutions with relevance to society.
CLO5:	Behave in an ethical and professional manner while conducting Lab tasks.
CLO6:	Practice team work while working toward project goals and deliverables.
CLO7:	Practice project management by making Project Timelines and follow deadlines
CLO8:	Devise solution using active learning and Work on Complex Problem.

### Relation to EE Program Outcomes

EE324-Lab CLOs	Related PLOs	Levels of Learning	Teaching Methods	Assessment Methods
CLO1	PLO3 (Design)	Cog-3	Instruction, Tutorial, Assignments	Assignments, Quizzes, Lab Tasks
CLO2	PLO3 (Design)	Psy-3	Instruction, Tutorial, Assignments	Lab Tasks
CLO3	PLO5 (ModTool)	Cog-4	Instruction, Tutorial, Assignments	Assignments, Quizzes, Lab Tasks
CLO4	PLO6 (EnggSOC)	Cog-,4	Project	Project
CLO5	PLO8 (Ethics)	Aff-3	Instruction, Tutorial, Assignments	Assignments, Quizzes Lab Tasks
CLO6	PLO9 (IndTeamWk)	Aff-3	Instruction, Tutorial, Assignments	Lab Viva
CLO7	PLO11 (PM)	Aff-3	Group Project	Project Deliverables
CLO8	PLO12 (LLL)	Cog-,4	Group Project	Project Deliverables

### Grading Breakup and Policy

Lab Units	55%
Project	35%
Lab Assignments (2to 3)	6%
Attendance	4%

Prepared by:	Dr Farasat Munir, Dr. Jahangir Ikram
Date:	14 <sup>th</sup> September, 2017