

# EECE 321L- Introduction

Computer Organization Laboratory

# Team

---

- ▶ Instructors: Sara Khaddaj, Ali Marmar
- ▶ Lab Engineer and Course Coordinator: Sara Khaddaj
- ▶ Lab Manager: Khaled Joujou
- ▶ Lab Technician: Salam Abyad



# Contact

---

## ▶ Sara Khaddaj

- ▶ Office hours: Will be posted on Moodle
- ▶ E-mail: [sk56@aub.edu.lb](mailto:sk56@aub.edu.lb)
- ▶ Office: SRB F2, 202
- ▶ Extension: 3567

## ▶ Ali Marmar

- ▶ Office hours: Will be posted on Moodle
- ▶ E-mail: [am83@aub.edu.lb](mailto:am83@aub.edu.lb)
- ▶ Office: SRB 303
- ▶ Extension: 3562



# Organization and logistics

---

- ▶ Communication through Moodle
- ▶ 7 sections, each maximum 24 students
- ▶ 8-9 sessions (experiments) for each section, schedule will be posted on Moodle.
- ▶ So, every week: 7 sessions for 1 experiment.
- ▶ Groups of maximum two students will be formed.



# Course Objectives

---

- ▶ Digital hardware design using CAD tools and FPGAs
- ▶ Program-controlled and interrupt-driven I/O
- ▶ Microcontroller-based designs.



# LAB Material

---

- ▶ Total of 8 experiments
  - ▶ Digital Design ( circuit building and testing)
    - ▶ The Digital Design Process
  - ▶ Hardware Design and VHDL ( FPGA and Xilinx software)
    - ▶ Seven-Segment LED Decoder
    - ▶ Hierarchical Circuit Design of Adders
    - ▶ Traffic Light Controller
  - ▶ Computer organization and microprocessors ( PIC microcontroller and MPLAB software)
    - ▶ Introduction to MPLAB
    - ▶ Delays
    - ▶ Interrupts
    - ▶ LCD
- ▶ Assessment
  - ▶ Midterm
  - ▶ Project
  - ▶ Drop quizzes
  - ▶ In-labs, pre-labs, and post-labs

Pre- requisite

EECE 230 Introduction to programming

Pre or co-requisite

EECE 321 Computer Organization

Pre- requisite

**VHDL programming**



# Calendar

2012	Year Week	MON	TUE	WED	THU	FRI	SAT	SUN	Semester Week	Effective	Labs
FEB	W7	13	14	15	16	17	18	19	W1	W1	Overview and groups assignment
	W8	20	21	22	23	24	25	26	W2	W2	LAB 1: The Digital Design Process
MARCH	W9	27	28	29	1	2	3	4	W3	W3	LAB 2: Seven-Segment LED Decoder
	W10	5	6	7	8	9	10	11	W4	W4	LAB 3: Hierarchical Circuit Design of Adders
	W11	12	13	14	15	16	17	18	W5	W5	LAB 4: Traffic Light Controller
	W12	19	20	21	22	23	24	25	W6	W6	LAB 4: Traffic Light Controller (cont'd) / PIC Lecture
	W13	26	27	28	29	30	31	1	W7	W7	<b>MIDTERM</b>
APRIL	W14	2	3	4	5	6	7	8	W8	W8	LAB 5: Introduction to MPLAB
	W15	9	10	11	12	13	14	15	W9	W9	
	W16	16	17	18	19	20	21	22	W10		LAB 6: Controllable 7-segment Display
	W17	23	24	25	26	27	28	29	W11	W10	LAB 7: Interrupts
MAY	W18	30	1	2	3	4	5	6	W12	W11	LAB 8: LCD
	W19	7	8	9	10	11	12	13	W13		
	W20	14	15	16	17	18	19	20	W14		
	W21	21	22	23	24	25	26	27	W15	W12	Final Project Presentations
	W22	28	29	30	31	1	2	3	W16		
JUNE	W23	4	5	6	7	8	9	10	W17		
	W24	11	12	13	14	15	16	17	W18		
	W25	18	19	20	21	22	23	24			
	W26	25	26	27	28	29	30	1			

# LAB Material

---

## ▶ Moodle:

- ▶ Metacourse: Include lab material
  - ▶ Pre-labs, manuals, in-labs and miscellaneous documents
  - ▶ Quizzes
  - ▶ Lab Announcements (Students should check regularly)
    - Different labs → different assessment methods
- ▶ Section: For submissions of in-lab and reports

## ▶ Some short quizzes will be scheduled at the beginning or at the end of a lab session.

- ▶ Material: To be announced.

## ▶ Codes developed in class will not be saved on the PC

- ▶ Erased automatically after restart
- 





# LAB Etiquette

---

- ▶ Attendance is a must in the lab
- ▶ Students should not miss any lab session except for
  - ▶ A valid medical reason from **AUH**
  - ▶ Should report the case to the instructor in any way (phone, email) directly within the same week of the lab to be missed
  - ▶ A make up should be scheduled
  - ▶ No make up sessions can be scheduled except within the same week
- ▶ Student who miss any lab session with no make up will be dropped from the course
- ▶ The partner of an absent student from the lab should report to the lab as usual in the normal session time
- ▶ Students who are late to a second lab session will not be allowed to attend the lab session and hence are considered absent from the lab session
- ▶ Any act of cheating or plagiarism will be reported to the disciplinary committee and students will get **DEAN'S WARNING**



# Tentative Grade Distribution

---

- ▶ **Grade Distribution**
  - ▶ Pre-lab reports (6%)
  - ▶ In lab reports(4%)
  - ▶ Post labs (5%)
  - ▶ Quizzes (10%)
  - ▶ Performance and Participation (5%)
  - ▶ Midterm (35%)
  - ▶ Project (35%)



Hope You will enjoy the course!!!

Have a nice semester...