

CENG-336 Syllabus (Spring'18) (TENTATIVE)

Instructors	Office	E-mail
Volkan Atalay (1)	A-406	volkan@ceng.metu.edu.tr
Uluç Saranlı (2)	B-208	saranli@ceng.metu.edu.tr

Teaching Assistants (TA)	Office	E-mail
Muhammed Çağrı KAYA	A-402	mckaya@ceng.metu.edu.tr
Can Carlak	A-310	ccarlak@ceng.metu.edu.tr
Alperen Eroğlu	Z-19	alperen@ceng.metu.edu.tr
Alperen Dalkıran	A-302	dalkiran@ceng.metu.edu.tr
Nermin Samet	B-200	nermin@ceng.metu.edu.tr

Weeks	Lectures	Recitations / Labs	Take Home Examinations (THE)/Others
Week - 1 Feb 12, 2018	Course Objectives and Introduction		
Week - 2 Feb 19, 2018	Microprocessor Architectures and the PIC Microcontroller	• Introduction to PIC and MCDEV KIT, take home examination schedule, MPLAB X IDE, PIC Assembly Language and debugging	Take home examination groups to be determined. <i>Assignment of THE-1</i> Due Date: Mar 04, 2018
Week - 3 Feb 26, 2018	Basic Input/Output, Embedded Software Architectures	• PIC Assembly Language, MPLAB X IDE, and debugging – PART I + PART II	Boards to be handed over to each group. <i>Assignment of BoardTest</i>
Week - 4 Mar 05, 2018	Interrupts and Interrupt Based Programming	• PIC's I/O ports and programming examples	<i>Assignment of THE-2</i> Due Date: Mar 23, 2018
Week - 5 Mar 12, 2018	Timers and Real-Time Programming Considerations	• PIC's interrupts and programming examples	
Week - 6 Mar 19, 2018	Analog/Digital Conversion (ADC), Interfacing with the Analog World	• PIC's Timers and programming examples	
Week - 7 Mar 26, 2018	<i>Midterm (Tentative)</i>	• Q&A Session	
Week - 8 Apr 02, 2018	Interfacing with the Analog World, Overview of Sensors	• Introduction to XC8 Compiler PIC's ADC • LCD(Liquid Crystal Display) Driving Specs	<i>Assignment of THE-3</i> Due Date: Apr 20, 2018
Week - 9 Apr 09, 2018	Sensors and Actuators, Interfacing and Modeling	• Q&A Session	
Week - 10 Apr 16, 2018	Serial Communications	• Q&A Session	
Week - 11 Apr 23, 2018	Real-Time Operating Systems	• Introduction to PICOS18 – PART I • Introduction to PICOS18 – PART II • Serial Communication with PICs	<i>Assignment of THE-4</i> Due Date: May 18, 2018
Week - 12 Apr 30 2018	Real-Time Operating Systems	• Q&A Session	Lab Review Exam (May 5)
Week - 13 May 07, 2018	Embedded Programming with an RTOS		
Week - 14 May 14, 2018	Other Processors and Technologies		

WARNING: You need to meet the following requirements to qualify for taking the final exam:

- You need to earn at least 30/100 for the midterm.
- You need to earn at least 30/100 for take home examinations (THE-1-2-3).
- You need to earn at least 30/100 for the lab review exam.
- In the case of academic misconduct (cheating, plagiarism or any other form) for any part of the course requirements (examinations, assignments, etc.), the student will not be allowed to take the final examination of the course.
- You need to satisfy all of the requirements related to the handling and safety of the experiment kits as indicated in the checkout form you have signed when receiving your kit.

Midterm	THE-1-2-3-4	BoardTest & Attendance	Lab Review Exam	Final Exam
18%	35% (4,9,10,12)	2%+5%	15%	25%

Lectures	Day	Place	Hours	Recitations	Day	Place	Hours
Section-1	Tue / Thu	BMB-2 / BMB-3	15:40-16:30 / 14:40-16:30	All Sections	Wednesday	BMB-1	17:40-19:30
Section-2	Wed/Fri	BMB-1	15:40-17:30 / 09:40-10:30				