

NEAR EAST UNIVERSITY

Faculty of Engineering
Department of Computer Engineering

Course Unit Title	Microprocessors		
Course Unit Code	COM301		
Type of Course	Compulsory Departmental Course		
Level of Course Unit	Bachelor's Degree (First Cycle)		
University Credits	4		
ECTS Credits	6		
Theory (hours/week)	4		
Practice(hours/week)	-		
Laboratory (hours/week)	1		
Prerequisites and co-requisites	COM254 Computer Organizations		
Recommended Optional Programme Components	-		
Year of Study	3		
Semester	Fall		
Language of Instruction	English		
Mode of Delivery	Face to face		
Teaching Methods	Telling/Explaining, Questioning, Problem Solving, Lab Experiments		
Course Coordinator	Assist. Prof. Dr Kaan Uyar		
Lecturer (s)	Assist. Prof. Dr Kaan Uyar Office: 16H-19 e-mail: kaan.uyar@neu.edu.tr web: www.uyar.com		
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Course Description	Introduction to microprocessors. Architecture of microprocessors and instruction sets. Interrupts. Memories. Parallel and serial input/output programming. Microprocessor based system design. Microprocessors applications.		
Course Objectives		Teaching the microprocessor as a programmable digital system element	
		To illustrate some basic concepts of microprocessors through the use of assembly language programming	
		To give the principles of hardware design	
		To provide an understanding of a microprocessor based system as a combination of hardware and software subsystems and their interactions	
Learning Outcomes	When this course has been completed the student should be able to	Assesment Methods	
	1	Describes the basic operation of a microprocessor	1
	2	To write programs for a microprocessor using assembly language	1, 2,5
	3	Design a microprocessor based system	1, 2, 5
	Assesment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab Work		
Course's Contribution to Program	#	<i>Program Competencies</i>	<i>LC</i>
	1	Ability to understand and apply knowledge of mathematics, science, and engineering	3
	2	An ability to analyze a problem, identify and define the computing	5

		requirements appropriate to its solution		
	3	An ability to apply mathematical foundations, algorithmic principles, and computer engineering techniques in the modelling and design of computer-based systems	4	
	4	An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social aspects		
	5	Planning and carrying out experiments, as well as to analyze and interpret data	5	
	6	Ability to use the techniques, skills and modern engineering tools necessary for engineering practice	4	
	7	An understanding of professional, ethical, legal, security and social issues and responsibilities that apply to engineering.	4	
	8	An ability to work productively in a multidisciplinary team, in particular to carry out projects involving computer engineering skills.	3	
	9	An ability to communicate effectively with a range of audiences	1	
	10	A recognition of the need for, and an ability to engage in life-long learning	5	
	LC (Level of Contribution): 1.Very Low, 2.Low, 3.Moderate, 4.High, 5.Very High			
Recommended Sources	<i>Textbook</i>	Dogan Ibrahim and Kaan Uyar, The 8080 and 8085 Microprocessors and Peripherals, Bilesim Yayincilik, 2006, Turkey.		
	<i>Lab Manual</i>	Dogan Ibrahim and Kaan Uyar, 8085 Microprocessor Experiments, Bilesim Yayincilik, 2006, Turkey.		
	<i>Web</i>	www.uyar.com		
Course Contents	<i>Week</i>	<i>Topic/Exam</i>		
	1	Introduction		
	2	The Intel 8080 Microprocessor Instruction Set		
	3	The Intel 8080 Microprocessor Instruction Set		
	4	Assembly language, program writing, examples		
	5	Assembly language, program writing, examples		
	6	Assembly language, program writing, examples		
	7	Examples, Review		
	8	Midterm Exam		
	9	The Intel 8085 Microprocessor		
	10	The Memory Interface		
	11	Parallel Input/Output Interface		
	12	Serial Input/Output Interface		
	13	8080/8085 Clock Circuits, Some Special Peripherals		
	14	8085 System Design		
	15	Examples, Review of the Semester, Lab Exam		
16	Final Exam			
Evaluation System	<i>Requirements</i>	<i>Quantity</i>	<i>Method</i>	<i>Percentage</i>
	Attendance/Participation	-	-	-
	Laboratory Experiments	10	Lab Attendance, Lab Performance, Written Lab exam	20
	Application	-	-	-
	Field Work	-	-	-
	Special Course Internship	-	-	-
	Quizzes/Studio Critics	-	-	-
	Homework Assignments	2	Written	5
	Presentation	-	-	-
	Project	-	-	-
Seminar	-	-	-	

	Midterms Exams/ Jury	1	Written Exam	25
	Final Exam/ Jury	1	Written Exam	50
	Total			100
Assessment Criteria	Final grades are determined according to the Near East University Academic Regulations for Undergraduate Studies			
Course Policies	1	Attendance to the course is necessary but not mandatory.		
	2	Late assignments will not be accepted unless an agreement is reached with the lecturer.		
	3	Exams are open book. Students may use text, notes, calculators, etc. Cellphones and computers must be switched off during the exam.		
	4	Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Near East University General Student Discipline Regulations		
	5	Attacks performed against University/lecturer resources are expressly prohibited.		
ECTS Allocated Based on the Student Workload	<i>Activities</i>	<i>Number</i>	<i>Duration (Hours)</i>	<i>Total Workload</i>
	Course Hours (Including Exam Weeks)	16	4	64
	Application	-	-	-
	Special Course Internship	-	-	-
	Field Work	-	-	-
	Study Hours Out of Class	14	4	56
	Presentation/Seminar Preparation	-	-	-
	Project	-	-	-
	Homework Assignments	2	4	8
	Quizzes	-	-	-
	Laboratory and Tutorials	10	1	10
	Laboratory Preparation	10	0,5	5
	Laboratory Exams	1	5	5
	Preparation of Midterm Exams/Jury	1	10	10
	Preparation of Final Exams/Jury	1	21	21
Total Workload (h)			179	
Total Workload/30 (h)			5,97	
ECTS Credits of the Course			6	
Prepared by	Assist.Prof. Dr Kaan Uyar			
Date	July 8, 2014			