Course Unit Title	Microprocessors
Course Unit Code	COM301
Type of Course Unit	Compulsory Departmental Course
Level of Course Unit	First Cycle
National Credits	4
Number of ECTS Credits Allocated	6
Theoretical (hour/week)	4
Practice (hour/week)	-
Laboratory (hour/week)	1
Year of Study	3
Semester when the course unit is delivered	Fall
Course Coordinator	Assist. Prof. Dr. Kaan Uyar
Name of Lecturer (s)	Assist. Prof. Dr. Kaan Uyar
Name of Assistant (s)	Khalid M. Ahmed
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites	COM254 Computer Organizations
Recommended Optional Programme Components	Digital Circuits

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.

Objectives of the Course:

- 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

At the end of the course the student should be able to		Assessment
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

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4. Presentation, 5. Lab. Work

Course's Contribution to Program

		CL
1	Apply knowledge of mathematics, natural science with relevant to life science and multidisciplinary context of engineering science.	4
2	Analyze, design and conduct experiments, as well as to analyze and interpret data.	4
3	Design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.	4
4	Function on multidisciplinary teams.	3
5	Control in design work, by using simulation, modelling and tests and integration in a problem solving oriented way.	4
6	Display an understanding of professional and ethical responsibility.	2
7	Communicate effectively aware of the non-technical effects of engineering.	1
8	Search technical literature and other information sources.	2
9	Recognize of the need for, and an ability to engage in life-long learning.	1
10	Exhibit a knowledge of contemporary issues.	2
11	Use the techniques, skills and modern engineering tools necessary for engineering practice to develop marketable products for the global market.	4

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
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
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

Recommended Sources

Textbook:

Dogan Ibrahim and Kaan Uyar, The 8080 and 8085 Microprocessors and Peripherals, Bilesim Yayincilik, 2006, Turkey.

Lab Manual:

Dogan Ibrahim and Kaan Uyar, 8085 Microprocessor Experiments, Bilesim Yayincilik, 2006, Turkey

Supplementary Course Material

Assessment

Attendance	-	

Assignment	5%	
Lab	20%	Lab Attendance, Lab Performance, Written Lab exam
Midterm Exam	25%	Written Exam
Final Exam	50%	Written Exam
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. Cell phones 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 Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class (including Exam weeks)	16	4	64
Labs and Tutorials	20	1	20
Assignment	2	4	8
Project/Presentation/Report	-	-	-
E-learning activities	-	-	-
Quizzes	-	-	-
Midterm Examination Study	1	10	10
Final Examination Study	1	21	21
Self Study	14	4	56
Total Workload			179

Total Workload/30(h)	5.97
ECTS Credit of the Course	6