Hashemite University
College of Engineering
Department of Computer Engineering
Assembly Language & Microprocessor Systems
(3 Credit Hours/Dept. Compulsory-Summer 2020)

Instructor

Dr. Awni Itradat	
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E-Office:	Microsoft teams
Office hours (online):	TBD

Grading info

First and Second Exams	40%
Assignments+ Quizzes	20%
Final	40%

Class Info

Days	Sec 1 and 2: Sun-Wed (elearning)
Time	Sec1 and sec 2: 3:30-6:15
LMS	**Mc Teams and Moodle**

Course

Course Number:	110408332
Prerequisite:	Digital Logic (0408220) & Electronics (1) (0409240)
Textbook:	**"The 8088 and 8086 Microprocessors Programming, Interfacing, Software, Hardware, and Applications",** W.A. Teriebel, A. Singh, 4th edition, 2003.
Course Description:	This course offers coverage of both software and hardware aspects of Intel 8086/8088 microprocessor. Examine internal architecture, its operation and control, the organization and interface requirements for a microcomputer system. A study of its addressing modes, instruction sets, assembly language programming and programming problems including peripheral device service routines and arithmetic operations. There will be emphasis on coding assignment and demo the results.
Specific Outcomes of Instruction (Course Learning Outcomes)	1. **Explore** architecture of an 80x86 microprocessor and the Pentium processor families (a, h) 2. **Understand** the 8088/86 microprocessor instructions and addressing modes.(a, e) 3. **Analyze** and develop an assembly language programs for applications.(e) 4. **Understand** the 8088/86 microprocessor hardware, signals, registers and bus cycles. (a, e) 5. **Explain** 8086 Instruction set and programming structures. (e, k) 6. **Develop and Design** assembly programs to manipulate graphic screen pixels. (d, e, g, k)
Important material	- Lecture notes and videos (MC teams, Moodle, YouTube channel) - References - Internet and websites resources

References:

- **Uffenbeck, J., 2002, 80x86 Family: Design, Programming and Interfacing, Prentice Hall.**

Major Topics Covered and Schedule in Weeks:

Topic	# Weeks	# Contact hours*
Introduction and history of 80x86 microprocessor group development. Software Architecture of the 8088 & 8086 Microprocessors	1	5
Assembly Language Programming. Machine Language Coding	2	10
8088/8086 Programming – Integer Instructions and Computations.	2	10
8088/8086 Programming – Control Flow Instructions.	2	10
Programming Structures	1	5
Total	**8**	**40**

Course Policy

- This course will be offered online via Moodle and Mc teams and will follow selected subjects as listed on the course schedule. Additional lecture notes and examples will be given and discussed in class as much as time permits.
- Students are responsible for following up the lecture materials on Mc teams and Moodle
- Students are responsible for reading additional information and examples in order to understand the materials discussed in the lectures.
- There won't be a makeup test, quiz, etc. and you WILL get a zero unless you have a valid excuse.
- Cheating and plagiarism are completely prohibited.
- According to HU-policies, if you miss more than 15% of online classes, you will automatically fail the class.
- Final exam is comprehensive.

Student Outcomes (SO) Addressed by the Course:

#	Outcome Description	Contribution
General Engineering Student Outcomes		
(a)	An ability to apply knowledge of mathematics, science, and engineering	*H*
(b)	An ability to design and conduct experiments, as well as to analyze and interpret data	
(c)	An ability to 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	
(d)	An ability to function on multidisciplinary teams	*M*
(e)	An ability to identify, formulate, and solve engineering problems	*H*
(f)	An understanding of professional and ethical responsibility	
(g)	An ability to communicate effectively	*M*
(h)	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.	*L*
(i)	a recognition of the need for, and an ability to engage in life-long learning	
(j)	A knowledge of contemporary issues	
(k)	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	*M*

H=High, **M**= Medium, **L**=Low

Prepared By: Dr. Awni Itradat   **Date: 5/7/2020**