



Jordan University of Science and Technology
Faculty of Computer & Information Technology
Computer Engineering Department

CPE353 Microprocessor Systems (Non Cpe Students)

Summer Semester 2019-2020

Course Catalog

3 Credit Hours. Microprocessor and microcontroller organization; assembly language and programming techniques, bus and memory organization, timing issues, interrupts, peripheral devices, serial and parallel communication, timing analysis; and interfacing to analog and digital systems.

Text Book

Title	Microprocessor Systems Design: 68000 Hardware, Software & Interfacing
Author(s)	Alan Clement
Edition	3rd Edition
Short Name	Ref #1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	The Intel Microprocessors Architecture, Programming, and Interfacing	Barry Brey	6th Edition	

Instructor

Name	Dr. Muhannad Quwaider
Office Location	N2-L1
Office Hours	Sun : 12:00 - 13:30 Mon : 11:00 - 12:30 Tue : 12:00 - 13:30 Wed : 11:00 - 12:30
Email	mquwaider@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Mon, Tue, Wed : 07:00 - 08:30 Room: منصة الكترونية

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Introduction to microprocessors, past, present and future technologies	
Week 2	Microprocessor systems types, structures, and components	Ch #1 From Ref #1
Weeks 3, 4	Software model, addressing modes and instruction set	Ch #2 From Ref #1
Weeks 5, 6	Machine language and Assembly language programming	Ch #3 From Ref #1
Weeks 7, 8	Hardware model, basic systems, decoding, and timing	Ch #4 From Ref #1
Weeks 9, 10	Memory, technologies, standard and direct memory access methods	Ch #5 From Ref #1
Week 11	Exception; hardware and software processing	Ch #6 From Ref #1
Weeks 12, 13, 14	Interfacing; input/output, timers/counters, and analog/digital conversion	Ch #8 & Ch #9 From Ref #1
Week 15	System buses	Ch #10 From Ref #1

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
An ability to apply knowledge of mathematics, science, and engineering: The quizzes, exams and final exam require the application of number systems (binary, decimal, hexadecimal etc.) and arithmetic skills to successfully complete the course. [1A]	30%	
An ability to design and evaluate software, hardware, integrated systems, components, and/or processes to meet desired requirements: A major focus of the course is to teach students assembly language programming. This is achieved by students as they analyze a given problem and write a working assembly program to solve it. Students learn to formulate their understanding of a given problem in the form of a logical sequence of process blocks (flowcharts). They then translate such flowcharts into assembly programs for generating precise solutions. [1C]	30%	
Use modern computing techniques and skills, and software and hardware tools necessary for computer engineering practices: Students learn to use software simulators Easy68 emulator, which is an extensive suite of assembly program development tools for the 68K CPU. [1K]	30%	
Be aware of contemporary issues and state-of-the-art advancements in the field of computer engineering: Students are familiarized to different memory decoders? architectures and I/O different addressing decoders? structures. [1J]	10%	

Relationship to Program Student Outcomes (Out of 100%)																	
A	B	C	D	E	F	G	H	I	J	K	SO1	SO2	SO3	SO4	SO5	SO6	SO7
30		30							10	30							

Evaluation	
Assessment Tool	Weight
First Exam	20%
Second Exam	20%
Quizzes	10%
Homeworks	10%
Final Exam	40%

Policy	
Attendance	Attendance will be recorded at the beginning of each class, and missing 20% of the classes results in automatic dismissal (No excuses). If a student misses a class, it is his sole responsibility to catchup.
Exams	No books or notes are allowed in the exams or quizzes. The exams and quizzes format may include multiple choice, but the most common is problem solving, analysis and design.
Makeups	Exam makeup requires online application within two days of the announced date, pending formal approval, makeups are arranged by the faculty for all courses in one day, typically one week after the exams period end.
Cheating	Copying assignments and cheating by any means in the exams and quizzes results in sever penalty .

Date Printed: 2020-09-24