Course Syllabus

Course ID	0902307
Course Title	**Microprocessor**
Prerequisite	**0902206 Logic Circuits**
Time & Date	**16:00qm – 17:00pm (Room)**
Coordinator	**-**
Instructor	**Assistant. Prof. Dr. Takialddin Al-Smadi** Faculty of Engineering E-mail: dsmadi@rambler.ru Telephone: ext.
Office hours	
Course Description	Introduction to microprocessors architecture. Addressing modes. Data movement instruction. Arithmetic & logic instructions. Program control instructions. Microprocessors programming. Introduction to microprocessors interfacing
Course Objectives	Course is to understand the operation of basic microprocessor systems like microcomputers and micro controllers. The course has a lab component (non official), through which the students use a simulator to write and debug simple assembly programs using the MC68000 microprocessor as a vehicle. Objectives achieved through the following set of activities: 1. Study the fundamentals of microprocessors and microcomputers 2. Review the development of computing platforms over history 3. Study the basic components used in building computers and their specifications; CPU, RAM, ROM, SIO, PIO, PTM, etc. 4. Learn the hardware and software models of microprocessors 5. Learn how to use decoders as glue logic to hold the various parts of the system, along with the tradeoffs 6. Study simplified timing diagrams to validate a design 7. Study the addressing modes and instruction sets of various processors, including the very special instructions like the ones designed mainly for the operating systems 8. Study the structured programming techniques and as away to implement larger applications 9. Learn how to map high-level language constructs to low-level language primitives, along with the alternatives 10-Learn about performance metrics and their use
Course Outcomes	

	At the end of the course and its lab component, the student must be able to do the following: 1-Demonstrate the development of computing styles over the last 50 years 2-Demonstrate the computing requirement of applications over history 3-Describe the various components of computers; electronic, electrical, optical, magnetic, mechanical, etc. 4-Understand the alternatives for a target application and the tradeoffs 5-Design logic circuits that glue together the various part in a way that is consistent with their specifications, especially the timing issues Employ standard parts like parallel and serial input-output peripheral interfaces to exchange data with the outside world
Course Topics	1. Introduction a-Course description and policies b- Historical Review of Computing 2. Software Model 3. Hardware Model 4. Basic Systems 5. Addressing Modes 6. Instruction Set I 7. Instruction Set II 8. Structured Programming 9. Exceptions 10. Decoding Logic 11. Timing Diagrams 12. Parallel Interface 13. Serial Interface 14. Performance Measures
Course Text Book	l-From Chips to **Systems: An Introduction to** Microprocessors **(ISBN:0895880636)** Rodnay ZaksSYBEX, **1981. Paperback** 2-Using microprocessors and microcomputers: The 6800 family (Electronic Technology) **(ISBN: 0471027278)** Joseph D **GreenfieldWiley, 1981** 3-Microprocessors and Peripherals: Hardware Software Interfacing and Applications **(ISBN:067520884X)** Brey **Prentice Hall, 1996** 4-Microprocessor architecture, programming, and applications with the 8085/8080A (Merrill's international series in electrical and electronics technology) **(ISBN:067520159)** Ramesh S GaonkarC.E. **Merrill Pub. Co, 1984** 5- Microprocessor _ Based systems and instrumentation applications Dr saad alshaban **,DARSAFA publishing and distribution, Alsalt street Amman ,Jordan,2001**

Course References	1- from chips to System :An Introduction to microprocessors Using microprocessor and Pripherals: Hardware soft ware interfacing and application ISSBN 0471027278
Course delivery	Lectures Tutorial Lab Homework Project Computer Internet Industrial Visit
Course Assessment	**First Exam : 20%** **Second Exam: 20%** **Quizzes : 10%** **Final Exam : 50%** **Total : 100%**
Updated	Dr.Takialddin 10/2009

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO12
CO1											
CO2											
CO3											
CO4											
CO5											
CO6											
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CO1											
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CO5											
CO6											
CO7											
CO8											
CO9											

ABET a-k Engineering and Technology program outcome

(a) An ability to apply knowledge of mathematics, science, and engineering
(b) An ability to design and conduct experiments, to analyze and interpret data
(c) An ability to design a system, component, or process to meet desired needs
(d) An ability to function on multi-disciplinary teams
(e) An ability to identify, formulate, and solve engineering problems
(f) An understanding of professional and ethical responsibility
(g) An ability to communicate effectively

(h) The broad education necessary to understand the impact of engineering solutions in a global and societal context
(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

Plagiarism

Deliberate plagiarism is a serious act of academic misconduct. Students may be suspended from the University if they are found to have plagiarized their course work. Whether inadvertent or deliberate, plagiarism includes the following:

(a) word-for-word copying of sentences or whole paragraphs or presenting of substantial extracts from either paper-based or electronic sources the work or data of others that are published or unpublished (such as books, internal reports, and lecture notes or tapes) without clearly indicating their origin;
(b) using very close paraphrasing of sentences or whole paragraphs without due acknowledgement in the form of reference to the original work;
(c) submitting another student's work in whole or in part;
(d) using of another person's ideas, work or research data without acknowledgement;
(e) copying computer files, algorithms or computer code without clearly indicating their origin;
(f) submitting work that has been written by someone else on the student's behalf; and
(g) submitting work that has been derived, in whole or in part, from another student's work by a process of mechanical transformation (e.g., changing variable names in computer programs).