

University of Salahaddin

College of Science

Department of Computer science

Course Book

For

Assembly Language

2nd year in computer science

Study Year :2014/2015

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Assembly Language

Objective:

- Understand fundamental concepts of 8086 Microprocessor architecture.
- Studying assembly language 8086 instruction set and addressing mode.
- solve common problems using assembly language.

References:

- 1- Abel P., "IBM PC Assembly Language and Programming", 4th Edition, Prentice Hall, 1998..
- 2- Thorne M., "Computer Organization and Assembly Language Programming", 2nd Edition, Benjamin/Cummings, 1990.
- 3-“Microprocessors, PC Hardware and interfacing” by N.Mathivanan
- 4-The 8086 Microprocessors Architecture, software and Interfacing techniques
By: Walter A. Triebel
- 5-The 8086/8088 MPU, Architecture, programming and interfacing . BY: Barry B. Brey
- 6-Singh ,A, The 8088 Microprocessor Programming , interfacing , software , hardware and applications, 1989

Grading:

1st semester theory exam 11%

1st semester practical exam 7%

2nd semester theory exam 13%

2nd semester practical exam 6%

Daily evaluation exams 3%

40%

Final exam (Theory and Practical) 60%

Forms of Teaching:The course consists of two parts; a theoretical part and practical or applied part, part I (theory) will be depend on lectures in the hall to explain the basic concepts associated with the course by using the Data show and white board.

Part II (practical) is associated with training on EMU8086 version4 program .

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The Two Terms program:

week 1	Introduction, course outline and grading
week 2	CPU Architecture, System bus .
week 3	PC components, Data Transfer, Fetch and Execute Cycles.
week 4	Address , Data and Control Busses
week 5	Memory Types, operation and Read/Write cycles
week 6	I/O controllers , Execution and Bus Interface unit.
week 7	Addressing data in memory, Registers of the 8086,
week 8	Data Registers, Flags, The Status Register, and Implementing Control
week 9	No. of Operands in instructions, Addressing Modes of 8086
week 10	1 st semester Exam
week 11	8 types of addressing mode .
week 12	Stack (Concepts and Applications)
week 13	Instruction set, Data transfer instructions
week 14	Arithmetic and Logic Instructions
week 15	Logical Instructions
week 16	Advance instruction (Program and Control)
week 17	Jump Instructions
week 18	String instructions
week 19	Interrupts.
week 20-21	Holiday
week 22	Hardware interrupts and maskable INT
week 23	Input / Output Instruction
week 24	Isolated and memory I/O
week 25	2nd semester Exam
week 26	Iteration Instructions
week 27	Procedure Call And Return.
week 28	Writing programs in assembly language
Week 29	Discussion and General Review before final exam