



Philadelphia University

Faculty of Engineering - Department of Computer Engineering
First Semester 2021/2022

Course Details:

Title:	Microprocessors (630313)
Prerequisite:	Logic Circuits (630211)
Credit Hours:	3 credit hours (approximately 44 contact hours)
Textbook:	"Assembly Language for x86 Processors," Seventh Edition, Kip R. Irvine, Prentice Hall, 2014.
References:	1) The Intel microprocessors: 8086/8088, 80186/80188, 80286, 80386, 80486, Pentium, Pentium Pro processor, Pentium II, Pentium III, Pentium 4, and Core2 with 64-bit extensions, Barry B. Brey, 8th ed., Pearson 2009. 2) Introduction to Assembly language programming : Pentium and RISC processors / Sivarama P. Dandamudi.— 2nd ed., Springer, 2005.
Course Description:	This course covers the basic concepts of microprocessor based systems, and the assembly language for Intel microprocessor.
Website:	http://www.philadelphia.edu.jo/academics/srushdan/
Instructor:	Eng. Sultan M. Al-Rushdan Email: srushdan@philadelphia.edu.jo Office: Engineering building, room: 6715 , ext: 2149 Office hours: SUN, TUE (10:00 – 11:00 , 13:00 – 14:00) , MON , WED (09:10-10:10)

Course Outlines:

Week	Topic
1 (17/10 – 21/10)	Introduction to the microprocessor, Basic Concepts
2 (24/10 – 28/10)	x86 Microprocessor architecture
3 (31/10 – 4/11)	Assembly Language Fundamentals
4 (7/11 – 11/11)	Data Transfers, Addressing, and Arithmetic
5 (14/11 – 18/11)	
6 (21/11 – 25/11)	Procedures
7 (28/11 – 2/12)	Conditional Processing
8 (5/12 – 9/12)	
9 (12/12 – 16/12)	Integer Arithmetic
10 (19/12 – 23/12)	
11 (26/12 – 30/12)	Advanced Procedures
12 (2/1 – 6/1)	Strings and Arrays
13 (9/1 – 13/1)	Structures and Macros
14 (16/1 – 20/1)	Floating-Point Processing
15 (23/1 – 27/1)	MS Windows Programming
16 (29/1 – 5/2)	Review, and final exam

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, the student should:

1.	Have a clear understanding of the microprocessor terminology and the x86 microprocessor architecture.	[1]
2.	Be able to use the assembly language to design and write programs that use different data types, x86 Instruction set and Data-Related Operators and Directives.	[1,2,6]
3.	Have the ability to read, analyze and find Errors in existing computer programs	[1,6,7]
4.	Have programming skills of different microprocessor mechanisms and techniques such as: Addressing Modes, Stack Operations, MS Windows Programming and Defining and Using Procedures	[1,2]
5.	Be able to write Assembly programs to solve specific engineering problems	[1,2,6,7]

Assessment Guidance:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

Sub-Exams: The students will be subjected to scheduled written exam, during the semester.

Quizzes and Assignments: At least (4) Quizzes and Assignments will be conducted during the semester.

Final Exam: The students will be subjected to scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

Mid Exam	30% (5/12-9/12)
Quizzes and Assignments	30%
Final Exam	40%(29/1-5/2)
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Total:	100%

Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Absent of final written exam without a medical or emergency excuse approved by the deanship will result in Zero mark recorded for final exam.