

SYLLABUS

1)

Course Name	Computer Organization 2
Course Code	
Course Hour and Credit	2
Department	Computer Engineering
Lecturer Name-Surname	Sanjar Erdolatov
E-Mail	Sanjar.erdolatov@iaau.edu.kg
Office No- Phone No	0555770960, 0312631425/157
Office Hours	

2) Course Description- objectives

Brief Course Description

This course has been designed with two goals in mind. The first is to cover basic concepts on which the stored program digital computer is formulated. These include the functional units of a computer (hardware), the flow (buses) and storage (memory management) of information, the representation and manipulation of numbers in binary form, and the five to seven levels around which any computer is designed. This goal addresses the question, how does a computer work and how is it organized.

The second goal is to provide students with a firm foundation for follow-on courses later in their program. In particular, the introduction to the CPU (Central Processing Unit) and assembly language programming provides a basis for CS556-Computer Architecture. While the material presented on gates, Boolean Logic and circuit designs provides a basis for further courses in digital design, computer engineering or microprocessor systems.

To familiarize each student with:

1. –Hardware units
2. –Binary, Octal and Hexadecimal number systems
3. –Assembly/ Machine Language
4. –Boolean Logic and Applications
5. –Future Developments

3) Outline

Weeks	Topics	Subtopics	Chapter	Home Assignments
1	Introduction	Computer organization and architecture.		
2	Computer Evolution and Performance	Computer Evolution and Performance		
3	Top Level View of Computer Function and Interconnection	Top Level View of Computer Function and Interconnection		
4	Buses	Buses		
5	Cache Memory	Cache Memory		
6	Internal Memory	Internal Memory		
7	External Memory	External Memory		

8	High-Level Language Interface	High-Level Language Interface		
9	Files and FAT (File Allocation Table) NTFS file system			
10	Computer Hardware and flow of information Central Processing Unit			
11	Main and Secondary Memory Peripheral Equipment			
12	- Basic Principles of Organization (not in book) Loading an operating system (booting up a computer)	Overview		
13	Arithmetic for Computers			
14	The Processor			
15	The Storage (Storage Arithmetic for Computers and Technology)			
16	The Multi-Core, Clusters and Performance			
17	Summary			

4) Assessment Policy

Midterm, Final and Applications- Home assessment

Students will be evaluated based on a midterm and a final examination as follows:

Midterm- 40% Final 60 %

All tests are closed book and the final is comprehensive. The results will be converted to a letter grade keeping with grading policies of the college.

5) Course Materials:

Computer Organization and Architecture, 8th Edition, William Stallings, 2010

6) Class Rules:

Students are expected to attend and participate in all classes. Attendance is taken at the beginning of each class. Please notify the instructor in advance of any anticipated absence whenever possible. It is your responsibility to make up any material missed whenever you are absent from class. Assignments are taken from exercises in the text. The homework problems are always covered in class and you are expected to read the section of text corresponding to the homework assignment. Questions about the problems should be raised at the next class meeting. The study of mathematics/ computer science requires regular work and plenty of practice. Postponed homework usually results in poor comprehension and performance.