MICHAEL AND CECILIA IBRU UNIVERSITY

CSC 307: COMPUTER ARCHITECTURE AND ORGANIZATION 1

FIRST SEMESTER

2017/2018

By

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COMPUTER ARCHITECTURE AND ORGANIZATION

This course is the first part of an entire course in Computer Architecture and organization which introduces the students to the course for a better understanding of the second part of the course. It exposes the students to the structure and organization of both the hardware and software components of the computer.

Course Aim and Objectives

The aim of this course is to learn and explain how the computer works, representation of data and to study basic principles that affect the performance of computers. The objectives of the course therefore are:

1. Identify the basic components of the computer
2. Explain how the computer handles digital logic using logic gates
3. Explain the various methods of logical expressions reduction.
4. Identify and describe the functions of registers and their notations
5. Explain how data are represented in the computer
6. Enable students perform basic operations on number bases.
7. Explain the fixed and floating point system.
8. Explain memory organization and architecture

Course content

- History of Computer.
- Fundamental building blocks of the computer,

- Computer Logic
- Boolean algebra.
- Registers transfer notation.
- Data representation and number bases.
- Fixed and floating point systems.
- Representation of memory systems organization and architecture.

Lecture arrangement

This course will be taken for at least three hours in week for an academic semester. However there could be fixed classes for a course topic that has not been adequately treated.

Mode of Assessment

Students would be assessed based on the following criteria:

- 75 percent attendance of lectures
- Class quizzes the end of every course topic.
- Take home assignment
- Group and personal projects.
- Writing of tests and examination is compulsory

Class ethics

The follow are the class ethics for effective learning:

- The use of phones is prohibited in the prevent distractions.
- There shall not be any form of random movement during lectures.
- Any student who enters the class after the attendance has been taken is assumed to not have attended the class.
- Students who are late to classes should enter quietly.

Reference materials

Textbooks

French C. S., Computer Science, (2002), 7th Edition, Bookpower, London.

Stalling, W., Computer Organization & Architecture, (2010), 7thEdition, Pearson Education India.

Hamacher C.etal, Computer Organization, (2002), 5th Edition, McGrawHill.

Oluwade Dele, Introductory Course on Computer Science, (2003) Peerless Grace, Ibadan.