

The Hong Kong University of Science and Technology

UG Course Syllabus

Computer Organization

COMP2611

3 credits

COMP2011 or COMP2011H

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Course Description

Inner workings of modern digital computer systems and tradeoffs at the hardware-software interface. Topics include: digital logic, data and instruction representation, instruction set architecture, assembly language programming, computer arithmetic, processor, pipelining, and memory systems. Prerequisite(s): COMP 2011 OR COMP 2012H. Exclusion(s): ELEC 2300, ELEC 2350

List of Topics

Introduction of digital logic
Data representation
MIPS ISA and assembly
Computer Arithmetic
Processor: Datapath and Control
Pipelined Processor
Memory System

Assessments:

[List specific assessed tasks, exams, quizzes, their weightage]

Assessment Task	Contribution to Overall Course grade (%)
Mid-Term	30%
Final Exam	40%
4 Homework	15%
1 Individual Programming Project	15%

Required Texts and Materials

Computer Organization and Design MIPS Edition: The Hardware/Software Interface
6th Edition

[Optional] Additional Resources

N/A