Unit Code	CPT160
Unit Title	Introduction to Computer Systems
Provider	RMIT University
Unit Type	UGRD
Level of Study	Undergraduate Level 1
EFTSL	0.125
Delivery Method	Fully Online

Unit Overview

This unit is an introduction to computer functionality and architecture, focusing on a description of a modern computer and of how the different components of a computer system work together. The discussion includes how different types of data may be represented inside a computer, how the various computer components process the data, and how the operating system, the software and the hardware cooperate to make computer operation and its interaction with outside devices possible. The unit includes a discussion of generic principles of computer design, and a brief introduction to computer algorithms.

Topics

1. Computer Fundamentals
2. System Internals
3. System Expansion
4. Operating Systems
5. Digital Data Representation
6. Floating Point Representation
7. Digital Logic
8. Error Correcting Codes
9. Algorithms
10. Networking and Distributed Computing

Learning Outcomes

At the completion of this unit students will be able to:

1. describe different data representation systems, and explain how they are managed by the computer
2. describe some standard alpha-numeric codes, such as ASCII
3. describe the main components of a general-purpose computer, and their operation
4. describe the different types of processors, their characteristics and the differences between them
5. describe the different types of memory, their characteristics and the differences between them
6. explain the main characteristics of the different types of computers in use today computers, and their characteristics
7. describe the organisation and functioning of caching and virtual memory
8. describe the basic structure and function of a processor
9. operate with Boolean variables and operators
10. correctly use single and multiple variable rules, including de Morgan's theorems, to manipulate and simplify Boolean expressions and convert them to one of the standard forms
11. describe the different coding systems used by computers, both for inside and outside communication
12. explain the basic principles of digital logic, and describe the structure and functionality of basic logic components
13. create and analyse simple algorithms.

Assessment

- Assignment 1 (10%)
- Assignment 2 (12%)
- Assignment 3 (18%)
- Invigilated Exam (50%)
- Test (10%)

Textbooks

More information on your prescribed textbook will be coming soon. Please check back regularly for updates.

Prerequisites

Or hold equivalent IT knowledge, before starting this unit.

Special Requirements

- Broadband access