USEEN2 - Operating Systems and Computer Architecture

Mis à jour le 13-02-2025

Code : USEEN2

Unité spécifique de type cours

6 crédits

Responsabilité nationale : EPN05 - Informatique / Sami TAKTAK

Présentation

Prérequis

- Basic knowledge in Architecture and Operating Systems
- Good knowledge of C programming

Objectifs pédagogiques

The goal of this course is to study both hardware components and operating systems used modern computer systems. After completing this course, you will be able to understand how moderns computers works and how hardware and software interact together.

Compétences

- Understanding of Hardware Architectures
- Understanding of Operating System Architectures

Programme

Contenu

- Hardware Architecture:
  - Exploring processors architecture
  - Mono-core vs multi-core
  - BUS and I/O operation
- Operating systems:
  - Operating systems internal structures and functions
  - Process vs multi-threading
  - Drivers and hardware/Software interaction
  - User interaction
- Compilers and Automated build systems
  - Understanding the different components of a build system and how there are used
  - Understand library linking and portability issue

Modalités de validation

- Contrôle continu
- Examen final

Description des modalités de validation

Periodic evaluation and final exam.

Bibliographie

Titre	Auteur(s)
Operating Systems Design and Implementation	Andrew Tanenbaum
Computer Architecture: A Quantitative Approach	John L. Hennessy, David A. Patterson
Programming in C	Stephen Kochan