

# ORGANISASI & ARSITEKTUR KOMPUTER

PERTEMUAN KE-1

SEMESTER 2

Prodi S-1 Teknik Informatika Unpad

Dosen : Ino Suryana, Drs., M.Kom.

# Pengantar

## ► Aturan perkuliahan

1. Kuliah : min 80% hadir dari 16 pertemuan
2. Evaluasi/PeNilaiAn:
  - a. Tugas/presentasi 20%
  - b. Quiz 10%
  - c. UTS 25%
  - d. UAS 25%
  - e. Praktikum 20%
3. Usahakan JANGAN TELAT hadir kuliah, kecuali ada hal yang tidak terprediksikan.

## BUKU Utama:

COMPUTER ORGANIZATION AND ARCHITECTURE  
DESIGNING FOR PERFORMANCE, NINTH EDITION, 2016,  
William Stallings.

# PENDAHULUAN

TIK :

Mahasiswa mampu memahami pengertian dari organisasi dan arsitektur komputer serta struktur dan fungsi komputer.

Komputer sebagai sebuah sistem yang berhirarki  
Komputer dapat dianggap sebagai struktur sejumlah komponen beserta fungsinya yang dijelaskan sebagai fungsi kolektif struktur dan fungsi internalnya

# ORGANISASI & ARSITEKTUR

- ▶ **Organisasi** → Bagaimana suatu perangkat diimplementasikan
  - ⇒ Sinyal kontrol, interface dan memori
  - ⇒ Contoh:
    - ⇒ penambahan hardware baru atau penambahan hardware secara berulang.
    - ⇒ Apakah instruksi perkalian diimplementasikan secara hardware, ataukah dikerjakan dengan penambahan secara berulang?
- ▶ **Arsitektur** → Atribut yang berhubungan dengan programmer
  - ⇒ Kumpulan bit, jumlah bit yang digunakan untuk representasi data, mekanisme I/O, teknik pengalamatan
  - ⇒ Contoh: apakah tersedia instruksi untuk perkalian?

# ORGANISASI & ARSITEKTUR

- ▶ Arsitektur sama, organisasi dapat berbeda
- ▶ Arsitektur bertahan lama, organisasi menyesuaikan perkembangan teknologi
  - ➡ Semua keluarga Intel x86 mempunyai dasar arsitektur yang sama
  - ➡ Semua keluarga IBM system/370 mempunyai dasar arsitektur yang sama
  - ➡ Memberikan kompatibilitas kode
  - ➡ Organisasi berbeda jika versi berbeda

# DAFTAR PUSTAKA

- ▶ Stallings, W., (2016), *Computer Organization and Architecture*, 10<sup>th</sup> edition, Prentice Hall
- ▶ <http://williamstallings.com/ComputerOrganization/index.html>
- ▶ Syahrul. 2010. Organisasi dan Arsitektur Komputer. Penerbit ANDI Yogyakarta. (BUKU TAMBAHAN)
- ▶ Cover Buku (Stallings, W., (2016), hal berikutnya)

# COMPUTER ORGANIZATION AND ARCHITECTURE

## Designing for Performance

Tenth Edition

WILLIAM STALLINGS

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