CDA 4105 – Structured Computer Architecture
Fall 2006

- **Catalog Data:**

  CAD 4105 Structured Computer Architecture. Credit 3. A multi-level approach to computer architecture. Logic level, microprogramming level, conventional machine level, operating system level and assembly language level. Prerequisite: CDA 3201, Introduction to Logic Design.

- **Textbook:**

  Andrew S. Tanenbaum, Structured Computer Organization, Fifth edition, Prentice Hall, 2006.

- **Instructor:**

  Jie Wu, Professor of Computer Science and Engineering.

- **Class hours:**

  Tuesday and Thursday, 3:30 pm - 4:50 pm. GS 111

- **Office hours:**

  Tuesday and Thursday, 2:00 pm - 3:30 pm. S&E 410, jie@cse.fau.edu

- **Goals:**

  An understanding of the structure of digital computers at all levels of detail, from the logic level to the programming level. Conceptual understanding of hardware software interaction.

- **Prerequisites by Topic**:

  1. Basic Boolean algebra and logic design
  2. Programming in a high level language

- **Topics**

  1. Multilevel machines
  2. Overview of computer systems organization
  3. Overview of digital logic
  4. Microarchitecture level: examples and implementations
  5. Conventional machine level: register structure, addressing, instruction set architecture, control flow
  6. Operating system level: I/O control, multiprocessing, virtual memory
  7. Assembly language: linking and loading macros
  8. Advanced computer architectures*: shared-memory multiprocessors and message-passing multicomputers

  Computer usage: none