Course Description (from the catalog): Extension of basic addressing concepts to more advanced addressability such as base register and self-relative addressing. Comparative computer architecture focusing on such organizations as multiple register processors and stack machines. Basics of virtual memory input-output. Introduction to the concept of microprogrammable systems. Low level language translation process associated with assemblers. System functions such as relocatable loading and memory management. Application of data structure and hashing techniques to the above. Other related topics.

Student Learning Outcomes: on completion of the course, students should be able to

1. Evaluate the architecture of a computer system
2. Compare and contrast computer architectures
3. Design circuits at the gate level using and/or/not/multiplexors/decoders/encoders
4. Design microcode sequences to implement machine level instructions


Disability accommodation

Students with disabilities needing accommodation should make requests to Disability Accommodation Services, Bell Tower 1769 (805-437-8510 (V/TTY), accommodations@csuci.edu). All requests for accommodations require appropriate advance notice to avoid a delay in services. Please discuss approved accommodations with me.

Course objectives

(1) Provide more of an in-depth examination of computer architecture than was possible in Comp 162. Examination of different levels of a multi-level machine.
(2) Use of simulation tools to explore facets of computer organization.

Organization: The course is available on-line in the form of 10 independent modules:

1. Computer Arithmetic
2. Circuits
3. Memory
4. Data Representation
5. Input/Output and Storage
6. System Software
7. Networks
8. Instruction Set Architecture
9. Parallel Processing
10. System Measurement
Requirements: Each module contains 100 points worth of assignments/exercises.

Evaluation of student work

All work that students submit as their own work must, in fact, be their own work. In accordance with the CSU Channel Islands policy on academic dishonesty, students in this course who submit the work of others as their own (plagiarize), cheat on tests and examinations, help other students cheat or plagiarize, or commit other acts of academic dishonesty will receive appropriate academic penalties, up to and including failing the course. Students are encouraged to consult with the instructor on when and how to document sources if they have questions about what might constitute an act of plagiarism or cheating.

There are 1000 points possible for the course. The final grade will be based on the total points achieved. Plus/minus grading will be used.

Contact Information

Office: Bell Tower West 2265, phone (805) 437 8882  
Email: peter.smith@csuci.edu  
Home page: http://faculty.csuci.edu/peter.smith  
Office hours: http://faculty.csuci.edu/peter.smith/office.html