

Course Description: The course will cover the fundamentals of computer design and basic performance evaluation, the design of memory hierarchy, the basics of storage systems, the interconnection networks and cluster machines. We will also study some advance topics in distributed systems and networking. **Prerequisites:** Students who have taken EE461, ICS431, or equivalent courses. Otherwise, please talk to the instructor.

Class Time/Location: (Subject to change): MW 430pm-545 pm at Holmes Hall 241.

Instructor: Galen Sasaki.

Office: Holmes 436 and 484. **Email:** sasaki@spectra. **Tel:** 956 4214.

Office Hours: Holmes Hall 484, WM 330-430 pm, or by email appointment.

Textbook: *Computer Architecture: A Quantitative Approach* (3rd Edition), John Hennessy and David Patterson, Morgan Kaufmann Publishers, 2003. ISBN 1558605967. **Supplemental Text:** *Computer Organization and Design: the Hardware/Software Interface, 2nd Edition*, David Patterson and John Hennessy, Morgan Kaufmann Publishers, 2003.

Web Site (for notes, announcements, etc):

<https://myuhportal.hawaii.edu/cp/home/displaylogin>

Main Topics: 1. Fundamental of Computer Design. (CH1). 2. Design of memory hierarchy (Ch5). 3. Basics of I/O storage systems (Ch7). 4. Networking and distributed systems (Ch8). 5. Advanced Topics in Networking and Distributed Architecture (To be announced)

Grading: Homework (30%), Paper Survey and Presentation (30%), Midterm Exam (20%), Final Exam (20%). Make up assignments will not be given unless there is a major medical reason, and then a doctor's note is required. Academic dishonesty will not be tolerated. **Please refer to UH Student Conduct Code at** <http://www.catalog.hawaii.edu/reference/appendix02.htm>. Of course, plagiarism is not tolerated. Plagiarism is to pass someone else's work as if it were your own. You may discuss assignments in general terms with anyone, but you may not copy whole or in part the work of someone else. Anyone found to commit academic dishonesty will receive a minimum penalty of F for the final grade.

Advice on Professional Presentation:

Mark Hill, "Oral Presentation Advice", <http://www.cs.wisc.edu/~markhill/conference-talk.html>

Charles Van Loan, "The Short Talk," <http://www.ee.hawaii.edu/~dong/GoodAdvice/ShortTalk.html>

John Farrell, "What to Say in a Good Research Talk,"

<http://www.ee.hawaii.edu/~dong/GoodAdvice/ResearchTalk.JohnFarrell.html>

Mark Leone's Collection, <http://www.ee.hawaii.edu/~dong/GoodAdvice/CollectionOfAdvice.html>

Reference Links:

- ACM SIGARCH, <http://www.acm.org/sigarch/>
- David Culler ,J.P. Singh, Anoop Gupta , *Parallel Computer Architecture: A Hardware/Software Approach*
- Computer Architecture Letters, <http://www.cs.virginia.edu/~tcca/index.html/>
- WWW Computer Architecture Page, <http://www.cs.wisc.edu/~arch/www/>
- Gurpur M. Prabh, COMPUTER ARCHITECTURE TUTORIAL. This tutorial introduces undergraduate students to computer architecture concepts of caches and pipelining, <http://www.cs.iastate.edu/~prabhu/Tutorial/title.html>
- Computer Architecture Conferences and Journals, <http://www.handshake.de/user/kroening/conferences.html>