

CIS 672 Computer Systems Architecture – Spring/Summer 2017

Course Description

Provides a general understanding of computer architecture and the logical organization of modern digital computers. CPU organization and input/output subsystem organizations are emphasized. The relationship between the computer architecture and the operating system is studied.

Course Web Page

Students are responsible for all information posted on the course web page:
<http://www.cis.gvsu.edu/~kalafuta/cis672>

Instructor

Dr. Andrew Kalafut

Office Hours: MW 5:00 - 6:00 PM (EC618)

Telephone: (616)331-2309

Email: kalafuta@gvsu.edu

Prerequisites

CIS 500

Required Text

Hennessy, John L and Patterson, David A., Computer Architecture: A Quantitative Approach (5th Edition) - Morgan Kaufmann, 2012

Grading

The course grade will be determined approximately as follows: midterm (30%), final (30%), project (30%), written exercises/homework (10%). Course letter grades will be determined according to the following scale:

A	A-	B+	B	B-	C+	C	C-	D+	D
93%	90%	87%	83%	80%	77%	73%	70%	67%	60%

Objectives

After successful completion of the course, students will be able to:

1. Evaluate the benefits and drawbacks of various processor optimizations
2. Compare the effects of different branch predictors
3. Describe the architecture features that provide parallelism

Topics

The course will be structured approximately as follows. This schedule is subject to change depending on topic interest and speed of coverage. Students are expected to frequently check the schedule posted on the course web page for updates and required readings.

Week	Topic
1	Principles and Instruction Sets
2	Instruction Level Parallelism
3	Thread Level Parallelism, Midterm
4	Memory Hierarchy
5	Storage
6	Data Parallelism
7	Presentations, Final Exam

Policies and Expectations

Reading:

All assigned reading is expected to be completed before class to facilitate useful discussion of the material. Lecture time will be much more productive if it is spent clarifying the reading instead of repeating it. However, this is only possible if you read.

Attendance:

Attendance is expected. This is a short semester, so by missing a day, you miss a great deal of material. Missing more than 2 class periods will be grounds for automatic failure of the course.

Assignments:

Most written exercises are intended to be completed and discussed during class time. If they are not completed during class time, they will be due at the start of the next class session. All graded assignments will be returned 1 week after the due date. Because this is a short semester, late work can not be accepted.

Project:

This class includes a mandatory individual project with a written paper or program and presentation. Any topic related to the course and of sufficient scope/difficulty is allowed. Details will be announced in class at or before the third class session.

Academic honesty:

All exams are to be completed individually. Other activities may or may not allow group work as specified in the assignment. All outside resources used, including Internet sources, must be cited. It is never acceptable to post any part of any assignment online asking for help. No academic dishonesty will be tolerated. Consequences will include the most severe penalty allowed by GVSU policy. Please read the CIS honesty policy at <http://www.cis.gvsu.edu/academic-honesty/>

Special needs:

If you are in need of accommodations due to a learning, physical, or other disability you must present a memo to me from Disability Support Resources (DSR), indicating the existence of a disability and the suggested reasonable accommodations. If you have not already done so, please contact the Disability Support Resources office (4015 JHZ) by calling 331-2490 or email to dsrgvsu@gvsu.edu. Please note that I cannot provide accommodations based upon disability until I have received a copy of the DSR issued memo.