

CS 465 ~ Spring 2017

Computer Systems Architecture

Section 003

George Mason University

Department of Computer Science

Wednesdays 4:30 P.M. - 7:10 P.M. Robinson B201

Duane King

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Office Hours: TBA

Course outcomes:

- ◇ Explain the organization of the classical von Neumann machine and its major functional components
- ◇ Compare performance of simple system configurations and understand the performance implications of architectural choices
- ◇ Show how instructions are represented at both the machine level and in the context of a symbolic assembler; be able to understand small MIPS programs and write MIPS assembly program segments
- ◇ Use different formats to represent numerical data and convert numerical data from one format to another
- ◇ Explain how an instruction is executed and the concept of datapaths and control
- ◇ Explain basic instruction level parallelism using pipelining and the major hazards that may occur
- ◇ Explain the effect of memory latency on running time; be able to describe the use of memory hierarchy to reduce the effective memory latency, in particular, the role of cache and virtual memory; be able to understand the principles of memory management.

Textbook

Computer Organization and Design: the Hardware/Software Interface, 5th edition, John L. Hennessy and David A. Patterson, Morgan Kaufmann, 2014.

Prerequisites

CS 367 with a grade of C or above

GTA

Jitin Krishnan (jkrishn2@gmu.edu) Thursday 4:30 - 6:30 ENGR 4456

Grading policy

Homework: 30%, Midterm 30%, Final 40%

Homework assignments will involve programming.

Exams are entirely on paper.

Attendance is not required but highly suggested.

Honor code

Students are expected to live up to the [GMU Honor Code](#). Students are also expected to abide by the [CS Department's Honor Code](#) policy.

Accommodations

If you have a disability contact the [Office of Disability Services](#) (ODS) at (703) 993-2474. Any accommodation must be arranged through ODS.

Important Dates

January 25 First scheduled day of class

January 30 Last day to add, last day to drop without tuition penalty

February 13 Last day to drop with a 33% tuition penalty

February 24 Final drop deadline, 67% tuition penalty

March 15 Spring Break

May 3 Last scheduled day of class

May 10 Final Exam

Discussion Board

We will be using Piazza. The course can be found at:

<http://piazza.com/gmu/spring2017/16174201710>