CG3207
Computer Architecture

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Updated: September 2011

This course has 3 components: 26 lectures/tutorials, periodic online quizzes and a project.

The final grade has the following weightings:

30% weighting on the final written exam. It is a multiple choice question paper. There are two sample questions here for you. Sample Questions
As we go through each section of the course, I will be releasing online self-assessing questions for you to attempt. You will need to do these questions within the stipulated periods. You may do the questions as many times as needed to achieve your highest possible score. These exercises are worth 5% of your final module score. If you are diligent, you should get the entire 5%.
65% weighting on the project. The project will be graded via a properly written report, a demonstration and an oral interview.

Project

AVHDL Primer A short VHDL Tutorial to bring you up to speed.

i8051 software guide You need this. This is the specs for the processor you will design in the project. It contains the ISA.

i8051 hardware datasheet This is how the processor looks from a physical and hardware view.

Installation Procedure for Xilinx You can either download from Xilinx website (2GB !!!!!!!) or borrow the disk from DSA lab.

Design with Xilinx Spartan 3 Board Show you step by step, how to simulate your program and compiling it to work on the Xilinx Spartan 3 board that you are going to get in Week 5.

A video recording to show you how to design with Xilinx (goes with above document) This is the super low resolution version. Watch the high resolution version (1GB) in the lab.

8051 VHDL Template Download this directory of files and study them carefully.

You will work in teams of three. Please form your groups at IVLE.

CG3207 Class list

LIM ZHI JIAN NICHOLAS
Faculty of Engineering, 2008

Lecture Materials (I am updating .....)

Part 1	Introduction to computer architecture.
Part 2	Design of a CPU using discrete logic gates and hardware design
Part 3	Design of supporting tools for a microprocessor
Part 4 New	High Performance Processor Design Techniques
Part 5	Memory System Architecture
Part 6	Parallel Computer Architecture
Part 7	More Hardware Design Techniques

Reading Materials

These are interesting articles on the state of the art in the area of study. You are required to download and read them. It is part of the course.

A survey of microprocessors：An interesting historical overview of the development of processors.

Interesting website with information on many different processors

Advanced Process and architectures boost x86 CPU Performance levels

Leverage Superscalar DSPs

Intel Processor Architecture
