

《计算机系统-1》课程教学大纲

Course Outline

课程基本信息 (Course Information)				
课程代码 (Course Code)	MS108		*学分 (Credits)	4
*课程名称 (Course Title)	(中文) 计算机系统(1) (英文) Computer System -I			
*课程性质 (Course Type)	本科生 (undergraduate)			
授课对象 (Target Audience)				
*授课语言 (Language of Instruction)	双语 (bi-lingual) : Oral (Chinese) + Writing & Slide (English)			
*开课院系 (School)	致远学院			
先修课程 (Prerequisite)				
授课教师 (Instructor)	梁阿磊	课程网址 (Course Webpage)		
*课程简介 (Description)	本课程《计算机系统》包含 I 和 II 两部分，其中第 I 部分的内容偏重计算机体系结构和组成原理。以冯诺依曼体系结构为框架，讲述各组成部分之间的定义和关系，以及实现各组成部分涉及到的原理和方法。该课程内容与操作系统（即计算机系统 II）、编译原理等课程紧密相关。			
*课程简介 (Description)	This course is the first part of two-part course Computer System. In the first part, Computer Architecture & Organization will be introduced, in which five-units of von Neumann architecture will be defined and described. Details and definitions in this course will be the fundamentals of the courses like Operating System (i.e., Computer System II) and Compiling techniques, etc.			
课程教学大纲 (course syllabus)				
*学习目标(Learning Outcomes)	<ol style="list-style-type: none">1. To be known: how is a computer defined, organized and designed?2. To be understood: how to improve the performance of computer?3. To be done: a prototype of 32-bit & 5-stages pipelined MIPS microprocessor.			

	教学内容	学时	教学方式	作业及要求	基本要求	考查方式
*教学内容、进度安排及要求 (Class Schedule & Requirements)	History	8	class	reading		
	Datapath of MIPS32	8	class	High		Q&A in class
	Basic pipeline	4	class	High		Project
	Definitions of Hazards	4	class	understanding		
	Cache	4	class	High		
	Mapping Methods	4	class	High		
	Basic Memory	4	class	High		
	Multi-banks	4	class	understanding		
	Advanced Cache	8	class	understanding		
	Tomasulo Algorithm	4	class	understanding		Q&A
	Unrolling & Softpipeline	8	class	understanding		
	Summary	4	class	required		
*考核方式 (Grading)	(成绩构成) 70% final exam + 30% project					
*教材或参考资料 (Textbooks & Other Materials)	David Patterson & John Hennessy. Computer Architecture: A Quantitative Approach, 3~5 ed. MK publisher.					
其它 (More)						
备注 (Notes)						

备注说明:

1. 带*内容为必填项。
2. 课程简介字数为 300-500 字; 课程大纲以表述清楚教学安排为宜, 字数不限。