《计算机系统结构》课程中英文简介

Computer Architecture

课程代码：070313B **Course Code：**070313B

课程名称：计算机系统结构 **Course Name：**Computer Architecture

学时：48 **Periods：**48

学分：3 **Credits：**3

考核方式：考查 **Assessment：**Check

先修课程：数字逻辑，计算机原理， **Preparatory Courses：**Digital logic ，Computer

数据结构，操作系统 Organization，Data Structure，

Operating System

《计算机系统结构》是计算机科学与技术及其相关专业的专业选修课程。主要研究软件、硬件功能分配和对软件、硬件界面的确定，即确定哪些功能由软件完成，哪些功能由硬件实现。计算机系统结构是从外部来研究计算机系统。它是使用者所看到的物理计算机的抽象，编写出能够在机器上正确运行的程序所必须了解到的计算机的属性。

本课程的学习目的是建立计算机系统的完整概念，学习计算机系统的分析方法和设计方法，掌握新型计算机系统的基本结构及其工作原理。内容包括计算机系统结构的基本概念、指令系统、存储系统、输入输出系统、标量处理机、向量处理机等。

其目标是使学生掌握计算机系统结构的基本概念、基本原理、基本结构、基本设计和分析方法，并对计算机系统结构的发展历史和现状有所了解。并培养学生的抽象思维能力和自顶向下、系统地分析和解决问题的能力。

“Computer Architecture”**is** one of the elective specialty courses for the students ,whose majors are computer science & technology or its relevant fields. The purpose of this course is to research on how to assign the functions for the hardware and software. And its purpose is also to decide the interface for hardware and software. Namely, it decides that which functions are performed by software. In Computer Architecture, computer users can research computer system from its outside, and they can draw abstractions for the physical computer they have seen. They can also learn the computer attributes easily so that they can code programs, which can be executed correctly by hardware.

The purpose of studying this course is to build entire concept of computer system, to study analysis method and design method of computer system, and to master basic structure and working principle of new model computer system. And its content includes basic concept of computer architecture, instruction system, storage system, I/O system, scalar quantity processing machine, vector processing machine, etc.

The goal of this course is to ensure students master basic concepts, basic principles, basic structures, basic designs and analysis methods for computer architecture. It can help students learn more abut computer architecture development, its history and its actuality. And it can develop the abstract ideation and the ability of analyzing problem and resolving problem, top-down and systematically.