《数据结构》课程中英文简介

Data Structure

课程代码：072104A **Course Code：**072104A

课程名称：数据结构 **Course Name：**Data Structure

学时：64 **Periods：**64

学分：4 **Credits：**4

考核方式：考试 **Assessment：**Examination

先修课程：程序设计基础 **Preparatory Courses：**Fundamentals of Program Design

数据结构课程为高等学校计算机科学与技术的重要课程，是计算机科学与技术专业本科生的专业课。它是介于数学、计算机硬件、计算机软件三者之间的一门核心课程，而且是操作系统、数据库系统及其它系统程序的大型应用程序设计的基础，同时又直接为从事各类计算机应用的技术人员提供了必要的基本知识和解决实际问题的多种方法。数据结构技术广泛应用于信息科学、系统工程、应用数学以及各种工程技术领域。通过本课程的学习，使学生了解软件分析阶段、设计阶段、编码阶段的若干基本问题，明确数据结构的内容包括抽象、实现和评价三个层次，即五个基本组成“要素”逻辑结构，存储结构、基本运算、算法及不同数据结构的比较与算法分析，初步具备分析问题、解决问题的能力，养成良好的程序设计风格。为学生在此领域中继续学习和研究打下坚实的基础。通过对课程的学习，学生可以掌握从问题入手，分析研究计算机加工的数据结构的特性，为应用所涉及的数据，选择适当的逻辑结构、存储结构及相应操作的算法，并通过复杂程序设计的训练，提高程序设计的能力水平。

Data structure, which is one of the most important courses in high educational institution, is a main professional course for computer science and technology major undergraduates. It is a core course between mathematics, computer hardware and computer software. And it is also one of the basic courses for the developing of operating system, database system and other applications. Besides, it provides the basic backgrounds and multiple practical solutions for programmers and other IT workers. Data structure is widely used in the fields of information science, systems engineering, applied mathematics and other engineering. It will help the students understand the elementary process of software analysis, design and programing, with the abstract, implementation and judge hierarchies of data structure. Besides, students will possess the knowledge of logic structure, storage structure, algorithm and analysis of different algorithms. Finally, they will know well of preliminary design of applications and form good programing habits. By learning, students will master the ability to analyze features of data in use. So they can choose the right logic structure, storage structure and algorithm for the data. With training of complicated application design, it will improve students’ ability in computer program design.