## 《数据结构》课程中英文简介

Data Structure

课程代码：2121113A **Course Code：**2121113A

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

学 时：48 **Periods：**48

学 分：3 **Credits：**3

考核方式：考试 **Assessment：**Examination

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| 先修课程：高等数学I、高等数学II、  线性代数、程序设计基础与应用、  面向对象程序设计 | **Preparatory Courses：**Higher Mathematics I, Higher Mathematics II, Linear Algebra, Fundamentals of Programming Design and Applications, Object-Oriented ProgrammingDesign |

《数据结构》是信息管理与管理信息系统专业的核心课程之一。本课程的主要目的是培养学生算法分析与设计的基本技能，掌握基本数据结构的特点，了解数据结构与算法的关系及优劣，提高学生程序设计的能力，为信息管理专业的后续课程提供基础。本课程主要介绍如何组织各种数据在计算机中的存储和运算，内容包括线性表、栈和队列、数组、树和二叉树、图、各种查找和排序的算法等。本课程具有较强的实践性，要求学生通过大量的程序设计实践，提高对实际问题的分析能力和应用数据结构解决问题的能力。

"Data Structure" is one of the core courses for Students majoring in Information Management & Information System. The course train students’ skill of programming analysis and programming design, so that they can master the basic characteristics of data structure, understand the relationship between data structure and algorithms, and improve their capability of programming design. The course provides a basic for follow-up studies.

The course’s topics include the organization and implementation of fundamental data structures such as list, binary tree, tree and forest, graph; the efficient sorting and searching algorithms; complexity analysis and tradeoff; data abstraction and problem solving. Practicality of this course requires students to practice through a large number of algorithm designs which able to make them have the ability to design and implement efficient and effective data structures and algorithms to solve problems