

理学院（数学与应用数学专业）课程简介

课程编号：1713001230

课程名称：组合数学

学分/学时：2.5/40

先修课程：数学分析/高等代数/常微分方程

适用专业：数学类专业

课程性质：限选

教材：许胤龙、孙淑玲编著.《组合数学引论》（第二版）.中国科学技术大学出版社, 2010年.

主要参考书：卢开澄、卢华明编著.《组合数学》（第五版）.清华大学出版社, 2016年.

内容简介：《组合数学》是数学专业本科三年级学生选修的一门基础课。组合数学是计算机出现之后迅速发展的一门数学分支，广泛应用于代数、几何、计算机科学、密码和编码、物理、化学以及生物等学科。本课程主要介绍组合数学涉及的基本计数理论，比如：排列与组合、二项式系数、容斥原理、递推关系、生成函数、特殊计数序列等。

\*\*\*\*\*

Course Description

School of Science Faculty

Course Code: 1713001230

Course Name: Combinatorial Mathematics

Credit/Hours: 2.5/40

Textbooks: Xu Yinlong, Sun Shuling. 《Introduction to Combinatorial Mathematics》. Press of University of Science and Technology of China, 2010.

Reference Books: Lu Kaicheng, Lu Huaming. 《Combinatorial Mathematics》. Press of Tsinghua University, 2016.

Course Description : Combinatorial Mathematics is an elective course for the third-year undergrad- uates. It is a rapidly developping mathematical branch after the computer appearing, and is widely applied in many subjects, such as Algebra, Geometry, Computer Science, Cryptography and Coding Theory, Physics, Chemistry and Biological Mathematics. This course mainly introduces basic counting theories, such as permutations and combinations, binomial coefficient, the inclusion- exclusion principle, recurrence relations, generating functions and special counting sequences.