

课程大纲 COURSE SYLLABUS

1.	课程代码/名称 Course Code/Title	MAT7080 组合数学专题 Topics in Combinatorics
2.	课程性质 Compulsory/Elective	选修 Elective
3.	课程学分/学时 Course Credit/Hours	3
4.	授课语言 Teaching Language	英文 English
5.	授课教师 Instructor(s)	向子卿 Ziqing Xiang
6.	是否面向本科生开放 Open to undergraduates or not	是 Yes
7.	先修要求 Pre-requisites	MA214 抽象代数 MA214 Abstract Algebra
8.	教学目标 Course Objectives	
	<p>本课程介绍组合数学的几个分支的前沿研究，主要内容包括编码理论，设计理论，球面填充，格。</p> <p>This course will introduce cutting edge research in several areas of combinatorics. The main topics will involve coding theory, design theory, sphere packing and lattices.</p>	
9.	教学方法 Teaching Methods	
	<p>将采用传统方式教授此课(版书，课堂讨论，作业，课外答疑，闭卷考试)</p> <p>The course will be taught in the standard way ("chalk and board", in-class discussion, homework, office hours, closed-book exams).</p>	
10.	教学内容 Course Contents	
	Section 1	Preliminaries
	Section 2	Coding theory
	Section 3	Design theory
	Section 4	Sphere packing
	Section 5	Lattices

11.	课程考核 Course Assessment
	作业 (70%) + 期末考试 (30%) Assignment (70%) + Final Exam (30%)
12.	教材及其它参考资料 Textbook and Supplementary Readings
	1. Introduction to Coding Theory, by J.H. van Lint 2. Sphere Packings, Lattices and Groups, by J.H. Conway and N.J.A. Sloane