

课程详述

COURSE SPECIFICATION

以下课程信息可能根据实际授课需要或在课程检讨之后产生变动。如对课程有任何疑问，请联系授课教师。

The course information as follows may be subject to change, either during the session because of unforeseen circumstances, or following review of the course at the end of the session. Queries about the course should be directed to the course instructor.

1.	课程名称 Course Title	集合论初步 Introduction to Set Theory
2.	授课院系 Originating Department	数学系 Mathematics
3.	课程编号 Course Code	MA126
4.	课程学分 Credit Value	1
5.	课程类别 Course Type	专业选修课 Major Elective Courses
6.	授课学期 Semester	春季 Spring
7.	授课语言 Teaching Language	中英双语 English & Chinese
8.	授课教师、所属学系、联系方式 Instructor(s), Affiliation & Contact (For team teaching, please list all instructors)	刘博辰 数学系 liubc@sustech.edu.cn Bochen Liu Department of Mathematics liubc@sustech.edu.cn
9.	实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact	待公布 To be announced
10.	选课人数限额(可不填) Maximum Enrolment (Optional)	

11. 授课方式 Delivery Method	讲授 Lectures	习题/辅导/讨论 Tutorials	实验/实习 Lab/Practical	其它(请具体注明) Other (Please specify)	总学时 Total
学时数 Credit Hours	32				
12. 先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	无				
13. 后续课程、其它学习规划 Courses for which this course is a pre-requisite					
14. 其它要求修读本课程的学系 Cross-listing Dept.	数学系				

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

我们计划为学生提供既逻辑严谨又通俗易懂的集合论介绍，提高学生的数学修养，为其后续的数学学习打下坚实的逻辑基础。

We plan to provide a rigorous, but readable view of set theory which can serve to develop the student's mathematical maturity, and help for their later study on higher-level Mathematics.

16. 预达学习成果 Learning Outcomes

学生通过学习，能够对集合论有一个初步的了解，清楚什么是严格的数学证明，能够用集合的语言描述自然数、有理数、实数、复数等对象。

Students are aware of basic concepts and techniques of set theory, understand what a rigorous mathematical argument is, are able to describe natural numbers, rational numbers, real numbers, complex numbers, etc., in terms of the language of sets.

17. 课程内容及教学日历（如授课语言以英文为主，则课程内容介绍可以用英文；如团队教学或模块教学，教学日历须注明主讲人）

Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)

- Chapter 1 Groudrules (4 credit hours) 基础法则 (4 学时)
- Chapter 2 Relations and Functions (4 credit hours) 关系与函数 (4 学时)
- Chapter 3 Binary Operations (4 credit hours) 二元运算 (4 学时)
- Chapter 4 Ordinals, Cardinals, and the Axiom of Choice (4 credit hours) 序数, 基数与选择公理 (4 学时)
- Chapter 5 The Axiom of Infinity and the Natural Numbers (4 credit hours) 无穷性公理与自然数 (4 学时)
- Chapter 6 The Integers and the Rational Numbers (4 credit hours) 整数与有理数 (4 学时)
- Chapter 7 The Real and Complex Numbers (4 credit hours) 实数与复数 (4 学时)
- Chapter 8 Transfinite Arithmetic (4 credit hours) 超限算术 (4 学时)

18. 教材及其它参考资料 **Textbook and Supplementary Readings**

Zermelo-Fraenkel set theory, by Seymour Hayden and John F. Kennison

Naive Set Theory, by Paul R. Halmos

课程评估 ASSESSMENT

19. 评估形式 Type of Assessment	评估时间 Time	占考试总成绩百分比 % of final score	违纪处罚 Penalty	备注 Notes
出勤 Attendance				
课堂表现 Class Performance				
小测验 Quiz				
课程项目 Projects				
平时作业 Assignments				
期中考试 Mid-Term Test				
期末考试 Final Exam				

期末报告

Final
Presentation

其它（可根据需要
改写以上评估方
式）

Others (The
above may be
modified as
necessary)

20. 记分方式 **GRADING SYSTEM**

- A. 十三级等级制 **Letter Grading**
 B. 二级记分制（通过/不通过） **Pass/Fail Grading**

课程审批 **REVIEW AND APPROVAL**

21. 本课程设置已经过以下责任人/委员会审议通过

This Course has been approved by the following person or committee of authority