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**	**高级分析讨论班** **Senior Analysis Seminar**
2.	**授课院系** **Originating Department**	数学系
3.	**课程编号** **Course Code**	MA447
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**	英文 English
8.	**授课教师、所属学系、联系方式（如属团队授课，请列明其他授课教师）** **Instructor(s), Affiliation& Contact** **（For team teaching, please list all instructors）**	刘博辰，数学系，邮箱：liubc@sustech.edu.cn Bochen Liu, Department of Mathematics, Email: 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		1			

12. 先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	复变函数(MA202)，实变函数（MA301） Complex Analysis(MA202), Real Analysis（MA301）
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.	

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

为有兴趣的高年级本科生提供分析方向必修课基础之上的介绍。

This course provides interested senior students an introduction to analysis beyond compulsory courses.

16. 预达学习成果 Learning Outcomes

通过本课程的学习，学生能够对必修课基础之上的分析有一定的了解，为将来读研甚至从事分析方面的研究打下基础。

After taking course, students will know something about analysis beyond compulsory courses, and get prepared for graduate study and even research on analysis in the future.

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.)

1. Abstract measure and integration theory (4 H)

2. Measure theoretic preliminaries (4 H)

3. Fourier transforms (4H)

4. Hausdorff dimension of projections and distance sets (4 H)

5. Exceptional projections and Sobolev dimension (4 H)

6. Slices of measures and intersections with planes (6 H)

7. Intersections of general sets and measures (6 H)

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

1.Real Analysis, by Elias Stein and Rami Shakarchi,世界图书出版公司,2012.

2.Fourier Analysis and Hausdorff Dimension, by Pertti Mattila,Cambridge University Press,2015.

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			20	
课堂表现 Class Performance			20	
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			60	

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
