

# 课程大纲

## COURSE SYLLABUS

1.	<b>课程代码/名称</b> <b>Course Code/Title</b>	<b>MAT7065 多复变与复几何 Several Complex Variables and Complex Geometry</b>
2.	<b>课程性质</b> <b>Compulsory/Elective</b>	专业选修/Elective
3.	<b>课程学分/学时</b> <b>Course Credit/Hours</b>	3/48
4.	<b>授课语言</b> <b>Teaching Language</b>	中英双语/English and Chinese
5.	<b>授课教师</b> <b>Instructor(s)</b>	李展/Li,Zhan
6.	<b>是否面向本科生开放</b> <b>Open to undergraduates or not</b>	是/Yes
7.	<b>先修要求</b> <b>Pre-requisites</b>	<p>(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)</p> <p>MA202 复变函数/Complex analysis</p> <p>无区别/No differences</p>
8.	<b>教学目标</b> <b>Course Objectives</b>	<p>(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)</p> <p>介绍全纯函数, 拟凸域, 次调和函数, <math>L^2</math> 估计和延拓定理, Bergman 核, 上调理论, Hodge 理论, 凯勒流形等 Introduce holomorphic functions, Pseudoconvexity, Plurisubharmonic functions, <math>L^2</math> Estimates and Extension problems, Bergman Kernels, Hodge theory, Kahler manifolds, etc.</p> <p>无区别/No differences</p>
9.	<b>教学方法</b> <b>Teaching Methods</b>	<p>(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)</p> <p>课堂教学/Lectures</p> <p>无区别/No differences</p>
10.	<b>教学内容</b> <b>Course Contents</b>	<p>(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)</p>
	<b>Section 1</b>	全纯函数/Holomorphic Functions
	<b>Section 2</b>	全纯函数环和 $\bar{\partial}$ -上调调/Rings of Holomorphic functions and $\bar{\partial}$ -cohomology
	<b>Section 3</b>	拟凸域与次调和函数/Pseudoconvexity and Plurisubharmonic functions

<b>Section 4</b>	L <sup>2</sup> 估计/L <sup>2</sup> Estimates
<b>Section 5</b>	延拓问题/Extension problems
<b>Section 6</b>	Bergman 核/Bergman Kernels
<b>Section 7</b>	霍奇理论/Hodge theory
<b>Section 8</b>	凯勒流形/Kahler manifolds
<b>Section 9</b>	
<b>Section 10</b>	
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**11. 课程考核**  
**Course Assessment**

(① 考核形式 Form of examination; ②. 分数构成 grading policy; ③ 如面向本科生开放, 请注明区分内容。  
If the course is open to undergraduates, please indicate the difference.)

考试/Exam;

作业 40% 期末考试 60%; Homework 40% Final Exam 60%.

无区别/No differences

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

1. Analysis of Several Complex Variables, Takeo Ohsawa, American Mathematical Society;
2. Analytic Functions of Several Complex Variables, R. Cuning & H. Rossi, American Mathematical Society.