

课程大纲

COURSE SYLLABUS

1.	课程代码/名称 Course Code/Title	MAT7074 交换代数 Commutative algebra														
2.	课程性质 Compulsory/Elective	选修 elective														
3.	课程学分/学时 Course Credit/Hours	3/48														
4.	授课语言 Teaching Language	英文教材, 英文授课 English														
5.	授课教师 Instructor(s)	李才恒教授 Caiheng Li, Professor														
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>了解和掌握交换代数基础理论, 基本方法, 培养学生在交换代数领域初步的科研能力, 并为代数几何的深入学习和研究打下基础。</p> <p>This course will cover fundamental theory and methods of commutative algebra, will train students to do research in commutative algebra, and make students to gain sufficient knowledge for the future study.</p>														
9.	教学方法 Teaching Methods	讲授, 讨论; Lectures, discussions														
10.	教学内容 Course Contents	<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> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Section 1</td> <td>Rings, ideals and modules,</td> </tr> <tr> <td>Section 2</td> <td>Rings and modules of fractions,</td> </tr> <tr> <td>Section 3</td> <td>Primary decompositions,</td> </tr> <tr> <td>Section 4</td> <td>Integral dependence and valuations,</td> </tr> <tr> <td>Section 5</td> <td>Chain conditions, noetherian and artin rings,</td> </tr> <tr> <td>Section 6</td> <td>Discrete valuation rings and Dedkind domains,</td> </tr> <tr> <td>Section 7</td> <td>Completions.</td> </tr> </table>	Section 1	Rings, ideals and modules,	Section 2	Rings and modules of fractions,	Section 3	Primary decompositions,	Section 4	Integral dependence and valuations,	Section 5	Chain conditions, noetherian and artin rings,	Section 6	Discrete valuation rings and Dedkind domains,	Section 7	Completions.
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Section 8	
Section 9	
Section 10	
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11. 课程考核
Course Assessment

作业; assessment (30%); 期末考试, Final examination (70%)

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

Introduction to Commutative Algebra, by Michael Atiyah and I.G. Macdonald.
A course in commutative algebra, by Gregor Kemper.