

## The syllabus of Complex Analysis

课程基本信息 (Course Information)						
课程代码 (Course Code)	MA214	学时 (Credit Hours)	64	学分 (Credits)	4	
课程名称 (Course Name)	复分析					
	Complex Analysis					
课程属性 (Course Type)	基础课					
开课院系 (School)	Department of Mathematics			开课学期 (Term)	Fall	
先修课程 (Prerequisite course)	Mathematical Analysis					
授课教师 (Instructors)	Feng Rong					
课程简介 (Description) 300-500 字	This course is an introduction to the theory of complex valued functions of a complex variable. Fundamental ideas and rigorous proofs will be emphasized. Topics to be covered include (but not limited to): complex numbers, analytic functions, maximum principle, Cauchy's theorem, Liouville's theorem, power series, isolated singularities, residues, Rouché's theorem, Schwarz lemma, Poisson integral and the Riemann mapping theorem.					
课程教学大纲 (course syllabus)						
*学习目标(Learning Outcomes)	Students are expected to understand the classical theory of complex analysis from the <i>analytic</i> , <i>algebraic</i> and <i>geometric</i> point of view.					
*教学内容、进度安排及要求 (Class Schedule & Requirements)	教学内容 topics	学时 Credit hours	教学方式 Teaching methodology	作业及要求 tasks	基本要求 Intended learning outcomes	考查方式 Assessment methods
	Introduction, I.1-I.3	4	lecture			homework
	I.4-I.8	4	lecture			homework
	II.1-II.4, Goursat's	4	lecture			homework

	Thm (IV.7) and d-bar (IV.8)					
	II.5-II.7, GL(2,C), III.1-III.2, differential forms	4	lecture			homework
	III.3-III.5, IV.1	4	lecture			homework
	IV.2-IV.5	4	lecture			homework
	IV.6-IV.8, V.1-V.2	4	lecture			homework
	V.3-V.6	4	lecture			homework
	V.7-V.8, review for midterm	4	lecture			homework
	Midterm, VI.1-VI.2	4	lecture			homework/midterm
	VI.3-VI.4, VII.1-VII.2	4	lecture			homework
	VII.3-VII.5, VIII.1	4	lecture			homework
	VIII.2-VIII.5	4	lecture			homework
	VIII.6, IX.1-IX.3	4	lecture			homework
	X.1-X.2, XI.1-XI.2	4	lecture			homework
	Wrap up, final review	4	lecture			homework/final
考核方式 (Assessment methods and Grading)	The <i>final grade</i> is decided as follows: 25% - Homework, 35% - Midterm, 40% - Final					
教材或参考资料 (Textbooks & Other Reading Materials)	Textbook: " <b>Complex Analysis</b> ", by T.W. Gamelin References: " <b>Complex Analysis</b> ", by L. Ahlfors, " <b>Real and Complex Analysis</b> ", by W. Rudin					
备注 (Notes)						