課程大綱及進度表

開課系所	數學三
開課學年	99
開課學期	1
課程名稱(中文)	複變數函數論
課程名稱（英文）	COMPLEX ANALYSIS
課程碼	C133800
分班碼	
先修科目或先備能力	Calculus, Linear Algebra
學分數	3
開課教師	江孟蓉
e-mail	riverch@mail.ncku.edu.tw
電話	65126
Office Hours	By Appointment
課程概述	The starting point is the simple idea of extending a function initially given for real values of the argument to one that is defined when the argument is complex. We shall start our study with some general characteristic properties of holomorphic functions: the Cauchy theorems, residues, analytic continuation, the argument principle. With this background, we will study additional material connecting the subject with other areas of mathematics: the Fourier transform treated by contour integration, the zeta function and the prime number theorem, and so on.

教學目標	Enjoy the intriguing world of complex analysis.
授課課程大綱明細	1. Preliminaries to Complex Analysis 2. Cauchy's Theorem and Its Applications 3. Meromorphic Functions and the Logarithm 4. The Fourier Transform 5. Entire Functions 6. The Gamma and Zeta Functions 7. The Zeta Function and Prime Number Theorem 8. Conformal Mappings 9. An Introduction to Elliptic Functions 10. Applications of Theta Functions
參考書目	Complex Analysis, Elias M. Stein & Rami Shakarchi, Princeton Lectures in Analysis, Princeton University Press 2003
課程要求	
評量方式	Class participation, exercises, exams.
課程網址	
助教資訊	
備註	