

## 課程大綱及進度表

開課系所	數學系
開課學年	99 學年度
開課學期	2
課程名稱(中文)	調和分析 (一)
課程名稱 (英文)	Harmonic Analysis (I)
課程碼	L166010
分班碼	
先修科目或先備能力	實變數函數論和偏微分方程
學分數	3
開課教師	方永富
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電話	275-7575 轉 65131
Office Hours	Mon, Thu: 12:10 - 13:00, and plus appointments

**課程概述** We study the concepts and basic properties of Fourier series. Then we discuss the convergence of the Fourier Series. Next we investigate the ideas of conjugate functions and interpolation of linear operators. Finally we learn the Fourier transform on the line and the related Fourier analysis

**教學目標** We expect to grab the basic idea and concept of Fourier series and Fourier transform. Then we learn various properties of them from different aspects.

**授課課程大綱明細**

Ch1: Fourier Series on  $\mathbf{T}$

Ch2: Convergence of Fourier Series

Ch3: Conjugate Functions and Functions Analytic in the Unit Circle

Ch4: Interpolation of Linear Operators

Ch5: Lacunary Series

Ch6: Fourier Transform on the Line

Ch7: Fourier Analysis on Locally Compact Abelian Groups

Ch8: Commutative Banach Algebras

**參考書目** An Introduction to Harmonic Analysis( Chapter 1 - 8) by Yitzhak Katznelson

**課程要求** Real Analysis and Partial Differential Equations

**評量方式** Homework: 40%

Final: 60%

**課程網址** <http://www.math.ncku.edu.tw/~fang>

**助教資訊**

**備註**