

國立中興大學教學大綱

課程名稱 (course name)	(中) 電子顯微術				
	(Eng.) Electron Microscopy				
開課系所班級 (dept. & year)	物理系(奈米電子與光電能源)中研碩士在職專班	學分 (credits)	3	授課教師 (teacher)	龔志榮
課程類別 (course type)	<input type="checkbox"/> 必修 <input checked="" type="checkbox"/> 選修	授課語言 (language)	中	開課學期 (semester)	
課程目標 (course objectives)	(中)介紹電子顯微術(包括掃描式電子顯微術及穿透式電子顯微術)之物理原理和相關應用。				
	(Eng.) Introduce the fundamental principles of electron microscopy (including scanning electron microscopy SEM and transmission electron microscopy TEM) and related applications.				
課程簡述 (course description)	(中) 介紹電子顯微術(包括掃描式電子顯微術及穿透式電子顯微術)之物理原理和相關應用。				
	(Eng.)This course is to introduce the fundamental principles of electron microscopy (including scanning electron microscopy SEM and transmission electron microscopy TEM) and related applications.				
先修課程(prerequisites)					
課程名稱 (course name)		與課程銜接的重要概念、原理與技能 (relation to the current course)			
教學模式 (teaching methodology) 【請勾選】	<input type="checkbox"/> 講授 (teaching)	<input type="checkbox"/> 討論/報告 (discussion & report)	<input type="checkbox"/> 實驗/參訪 (exp./fab visit)	<input type="checkbox"/> 遠距/網路教學 (remote/web teaching)	

授課內容 (單元名稱與內容、習作/考試進度、備註)

(course content and homework/tests schedule)

1. The Applications of SEM and TEM in materials science
2. The Electron Optics and Image Formation Principles of TEM
3. Kinematical Theory of Electron Diffraction
4. The Geometry of Electron Diffraction Patterns
5. Kinematical Theory of Image Contrast
6. Specimen Preparation Techniques
7. Dynamic Theory of Electron Diffraction and Contrast

學習評量方式

(evaluation)

教科書&參考書目 (書名、作者、書局、代理商、說明)

(textbook & other references)

Electron Microscopy of Thin Crystals, by P.B. Hirsch et al. (1977)

Transmission Electron Microscopy of Materials, by G. Thomas & M.J. Goringe (1979)

課程教材 (教師個人網址請列在本校內之網址)

(teaching aids & teacher's website)

課程輔導時間

(office hours)