國立中正大學課程大綱

National Chung Cheng University Syllabus

課號 course code	2405402	全英文授課 EMI	□是 ■否
課程類別 course type	□人文關懷課程 □競賽專題課程 □問題導向課程 □專題導向課程 □總整課程 □實作課程 □實習 ■其他		
課程名稱（中文） Chinese course name	代數通論(二)		
課程名稱（英文） English course name	Introduction to modern algebra		
學年/學期 academic year /semester	114/2	學分 credits	3
學系（所） department	數學所	必選修 required/selected	■必修 □選修
上課時間 class hours	二 F 四 F	上課地點 classroom	數學館 308
教師 instructor	陳星谷	教師 email Instructor's email	hkchen@ccu.edu.tw
助教 teaching assistant		助教 email TA's email	
先修科目或先備能力 prerequisites	Undergraduate algebra		
課程概述 course descriptions	In this course, we will briefly introduce some important results in modern algebra. In this semester, we will focus on ring theories and module theories, including basic notions of rings and modules, theorems about PID, UFD, basic holomorphic algebra and basic algebraic geometry. Students are supposed to be familiar with undergraduate algebra		
課程概述（英文） course descriptions	In this course, we will briefly introduce some important results in modern algebra. In this semester, we will focus on ring theories and module theories, including basic notions of rings and modules, theorems about PID, UFD, basic holomorphic algebra and basic algebraic geometry. Students are supposed to be familiar with undergraduate algebra		
學習目標 learning objectives	Make students familiar with modern algebra, so that they can learn number theory or algebraic geometry in the future		
教科書及參考書 textbooks and references	David S. Dummit, Richard M. Foote, "Abstract algebra"		

教學要點概述	
教材編選 teaching materials	□自製簡報(ppt) ■課程講義 □自編教科書 □教學程式 □自製教學影片 □其他
教學方法 teaching methods	■講述 □小組討論 □學生口頭報告 □問題導向學習 □個案研究 □其他
評量工具 Evaluation tools	■期中考 ■期末考 □隨堂測驗 ■隨堂作業 □課後作業 □期中報告 □期末報告 □專題報告 □評量尺規 □其他
教學資源 teaching resources	■課程網站 □教材電子檔供下載 □實習網站
教師相關訊息 instructor's information	

每週課程內容 weekly scheduled contents
Week 1 Rings, Ideals
Week 2 Chinese remainder theorem, Euclidean domains
Week 3 PID, UFD
Week 4 Polynomial rings
Week 5 Modules
Week 6 Tensor products
Week 7 Injective/projective/flat modules
Week 8 Midterm
Week 9 Modules over PID
Week 10 Notherian rings
Week 11 Radicals
Week 12 Localizations
Week 13 DVR, Dedekind domains
Week 14 Holomorphic algebra
Week 15 Algebraic geometry
Week 16 Final exam
Week 17
Week 18

核心能力 core competencies

核心能力 Core competency		本課程與核心能力關聯強度 Degrees of related to core competencies 1	2	3	4	5
專業能力 Specific competency	專業能力 1					
	專業能力 2					
	專業能力 3					
	專業能力 4					
	專業能力 5					
共通能力 General Competence	共通能力 1					
	共通能力 2					
	共通能力 3					
	共通能力 4					
	共通能力 5					

註：關聯強度以五點量表標示，1 表示沒有關聯，5 表示非常有關聯。