國立東華大學

教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	代數專題(二)			學年/學期 Academic Year/Semester	112/2
課程名稱(英文) Course Name in English	Topics in Algebra (II)				
科目代碼 Course Code	AM__58090	系級 Department & Year	碩士	開課單位 Course-Offering Department	應用數學系
修別 Type	選修 Elective	學分數/時間 Credit(s)/Hour(s)	3.0/3.0		
授課教師 Instructor	/官彥良				
先修課程 Prerequisite					

課程描述 Course Description

This course is an introduction to advanced modern algebra and algebraic number thoery. It is a course including Module Theory, Galois Theory and basics of Algebraic Number Theory.

課程目標 Course Objectives

研習基本代數結構，以訓練學生處理複雜問題的簡化能力。
To study basic algebraic structures to train the students to have the ability to simplify and reduce complicated problems.

	系專業能力 Basic Learning Outcomes	課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.'s Education Objectives
A	具備專業數學知識及邏輯推理能力。Have well-founded expertise in mathematics and be capable of logical reasoning.	●
B	具備學習其它學科的能力，以期能邁向跨領域研究。Be able to study other fields of science so as to conduct interdisciplinary research in the future	○
C	具備獨立思考與解決問題的能力。 Be capable of independent thinking and have the problem-solving skills.	●

圖示說明Illustration ：● 高度相關 Highly correlated ○中度相關 Moderately correlated

授 課 進 度 表 Teaching Schedule & Content

週次Week	內容 Subject/Topics	備註Remarks
1	Introduction of Module Theory	
2	Introduction of Module Theory	
3	Introduction of Module Theory	
4	Introduction of Module Theory	
5	Introduction of Module Theory	
6	Introduction of Module Theory	
7	Modules over Principal Ideal Domains	
8	Modules over Principal Ideal Domains	

9	Algebraic Integers	
10	Algebraic Integers	
11	Algebraic Integers	
12	Algebraic Integers	
13	Algebraic Integers	
14	Algebraic Integers	
15	The Theory of Valuations	
16	The Theory of Valuations	
17	The Theory of Valuations	
18	期末考	

教 學 策 略 Teaching Strategies

☑ 課堂講授 Lecture ☐ 分組討論Group Discussion ☐ 參觀實習 Field Trip

☐ 其他Miscellaneous:

教 學 創 新 自 評 Teaching Self-Evaluation

創新教學(Innovative Teaching)

☑ 問題導向學習(PBL) ☑ 團體合作學習(TBL) ☐ 解決導向學習(SBL)

☐ 翻轉教室 Flipped Classroom ☐ 磨課師 Moocs

社會責任(Social Responsibility)

☐ 在地實踐Community Practice ☐ 產學合作 Industy-Academia Cooperation

跨域合作(Transdisciplinary Projects)

☐ 跨界教學Transdisciplinary Teaching ☐ 跨院系教學Inter-collegiate Teaching

☐ 業師合授 Courses Co-taught with Industry Practitioners

其它 other:

學期成績計算及多元評量方式 Grading & Assessments									
配分項目 Items	配分比例 Percentage	多元評量方式 Assessments							
		測驗 會考	實作 觀察	口頭 發表	專題 研究	創作 展演	卷宗 評量	證照 檢定	其他
平時成績 General Performance									
期中考成績 Midterm Exam									
期末考成績 Final Exam	100%	✓							
作業成績 Homework and/or Assignments									
其他 Miscellaneous (_____)									

評量方式補充說明
Grading & Assessments Supplemental instructions

教科書與參考書目（書名、作者、書局、代理商、說明）
Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

Abstract Algebra, Third Edition, David S. Dummit and Richard M. Foote
Algebraic Number Theory, Jurgen Neukirch

課程教材網址(含線上教學資訊,教師個人網址請列位於本校內之網址)
Teaching Aids & Teacher's Website(Including online teaching information. Personal website can be listed here.)

其他補充說明 (Supplemental instructions)