



教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	催化材料			學年/學期 Academic Year/Semester	115/1
課程名稱(英文) Course Name in English	Catalysis Material				
科目代碼 Course Code	MS__55400	系級 Department & Year	碩士	開課單位 Course-Offering Department	材料科學與工程學系
修別 Type	選修 Elective	學分數/時間 Credit(s)/Hour(s)		3.0/3.0	
授課教師 Instructor	/傅彥培				
先修課程 Prerequisite					
課程描述 Course Description					
1.Introduction and fundamental concepts of catalysts 2.Kinetics of catalysed reactions 3.Preparations of Catalysts 4.Evaluation of physical and chemical properties of catalysts 5.Evaluation of catalytic properties of catalysts 6.Transport phenomena in catalytic 7.Dynamic phenomena in catalytic systems 8.Possibilities of intensification of catalytic processes 9.Catalytic processes in protection of environment					
課程目標 Course Objectives					
1.Concepts of Modern Catalysis and Kinetics 2.Recognize, understand, the technical terminology used in surface science					
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 and fundamental concepts of catalysts				
2	Introduction and fundamental concepts of catalysts				
3	Kinetics of catalysed reactions				
4	Kinetics of catalysed reactions				
5	Preparations of Catalysts				
6	Preparations of Catalysts				
7	Evaluation of physical and chemical properties of catalysts				
8	Evaluation of physical and chemical properties of catalysts				
9	期中考試週 Midterm Exam				
10	Evaluation of catalytic properties of catalysts				
11	Evaluation of catalytic properties of catalysts				
12	Transport phenomena in catalytic				

13	Transport phenomena in catalytic	
14	Dynamic phenomena in catalytic systems	
15	Dynamic phenomena in catalytic systems	
16	Possibilities of intensification of catalytic processes	
17	Catalytic processes in protection of environment	

彈性 教學 規劃 Flexible Teaching Plan	請勾選(至少需勾選1 個項目): Please tick the box(es). (At least one item is required.): ☐ 問題討論 Problem-based Discussion ☐ 翻轉教學 Flipped Classroom ☐ 展演實作 Performance / Practical Presentation ☐ 校外參訪 Off-campus Visit ☐ 講座活動 Lecture / Seminar ☐ 線上作業 Online Assignments ☒ 自主學習 Self-directed Learning ☐ 課業輔導 Academic Support ☐ 實驗操作 Experiment Operation ☐ 遠距教學(同步) Distance Learning (Synchronous) ☐ 遠距教學(非同步) Distance Learning (Asynchronous) ☐ 其他(請填寫) Others (Please specify.): 備註: 本校學期週數自115 學年度起調整為17 週, 為符合1學分18 小時之原則, 請教師規劃安排彈性教學。 Note: From the 115th academic year, the semester will be 17 weeks. Please include flexible teaching activities to meet the required 18 hours per credit.
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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 Industry-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(含出缺席) General Performance (Attendance Record)	20%		✓						
期中考成績 Midterm Exam	30%	✓							
期末考成績 Final Exam									
作業成績 Homework and/or Assignments	10%		✓						
其他 Miscellaneous (口頭報告)	40%			✓					
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.)									
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)									