



教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	無機化學(二)		學年/學期 Academic Year/Semester	112/2	
課程名稱(英文) Course Name in English	Inorganic Chemistry(II)				
科目代碼 Course Code	CHEM30900	系級 Department & Year	學三	開課單位 Course-Offering Department	化學系
修別 Type	學程 Program	學分數/時間 Credit(s)/Hour(s)	3.0/3.0		
授課教師 Instructor	/劉鎮維				
先修課程 Prerequisite					
課程描述 Course Description					
The subjects will cover both Coordination chemistry and Organometallics in spring semester.					
課程目標 Course Objectives					
配合週期表，藉由原子結構、分子之鏈結與結構，探討無機化合物之特性及化學反應之動力及反應機構。					
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	具備化學基礎知識			●	
B	具備獨立思考及分析解決問題之能			●	
C	具備化學專業知			●	
D	具備執行化學實驗之能力			○	
E	具備國際視野與外語能力			○	
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			no classes on 2024/02/20	
2	Ch. 10 (H)	Hydrogen		make-up classes on 2024/02/28	
3	Ch. 19 (H, M)	d-Block metal chemistry: general considerations			
4	Ch. 20 (H, M)	d-Block metal chemistry: coordination complexes			
5	Ch. 20 (H, M)	d-Block metal chemistry: coordination complexes			
6	Ch. 26 (H, M)	d-Block metal complexes: reaction mechanism			

7	Ch. 21 (H)	d-Block metal chemistry: the first row metals	
8	Ch. 22 (H)	d-Block metal chemistry: the heavier metals	no class on 2024/04/08
9	期中考試週 Midterm Exam Mid-term examination on 2024/04/16 (50%)		
10	Ch. 2 (N)	Basic Concepts Relating to Organometallic Complexes	
11	Ch. 3 (N)	Bonds in Organometallic Complexes	
12	Ch. 4 (N)	Carbonyl, Olefin, and Phosphine Complexes	
13	Ch. 5 (N)	Carbene Complexes	
14	Ch. 6 (N)	Basic Reactions of Organometallic Complexes	
15	Ch. 7 (N)	Catalysis by Organometallic Complexes	
16	Ch. 28 (H)	Inorganic materials and nanotechnology	
17	Final examination on 2024/06/11 (50%)		
18	literature studies		

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 General Performance	0%								
期中考成績 Midterm Exam	50%								
期末考成績 Final Exam	50%								
作業成績 Homework and/or Assignments	0%								
其他 Miscellaneous (_____)	0%								

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.)

Textbook: Inorganic Chemistry, 5th edition by Catherine E. Housecroft & Alan G. Sharpe; Inorganic Chemistry, 5th edition by Gary L. Miessler, Paul J. Fischer, Donald A. Tarr; Organometallic Chemistry, Edited by Hiroshi Nakazawa and Julian Koe (Royal Society of Chemistry)

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)