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## ②图 i 東華大學 教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese		計算化學			學年/學期 Academic Year/Se	113/2			
課程名稱(英文)			Computational	illester					
Course Name in English			Computational Chemistry						
科目代碼 Course Code			CHEM53800	系級 Department & Year	碩士	開課單位 Course-Offering Department		化學系	
		修別 Type	選修 Elective	學分數/時局 Credit(s)/Hou	3.0/3.0	0/3.0			
授課教師 Instructor									
	先修課程 Prerequisite   課程描述 Course Description   hon applications in computational chemistry   課程目標 Course Objectives   3目前在化學研究上,經常被使用之電腦程式及其在化學研究之應   課程目標與系專業能								
Python applications in computational chemistry									
Python applications in computational chemistry									
課程目標 Course Objectives									
介紹目前在化學研究上,經常被使用之電腦程式及其在化學研究之應									
課程目標與系專業能力和關性 系專業能力 Correlation between Course Objectives Basic Learning Outcomes and Dept.'s Education Objectives							力相關性 relation between urse Objectives and Dept.'s Education		
A	具備化	學專業知識						•	
В	具備獨	立思考及分析解決問	問題之能力					•	
С								$\circ$	
D								$\circ$	
圖示語	說明 I l	lustration :	高度相關 Hi	ghly correla	ated 〇中	度相關 Moderatel	y corre	lated	
			授課進	度 表 Teaching	g Schedule	e & Content			
週次Week			內容 Subject/Topics					備註Remarks	
1 Introduction		Introduction							
2	2	What is Computa							
3	3 Branching and Iteration								
4	4 Branching and Iteration								
5	5 String Manipulation, Guess and Check, Approximations, Bisection								
6	6 String Manipulation, Guess and Check, Approximations, Bisection								
7	7 Decomposition, Abstraction, and Functions								
8 Decomposition Abstraction and Functions									

9	Assignment 1								
10	Tuples, Lists, Aliasing, Mutability, and Cloning								
11	Recursion and Dictionaries								
12	Testing, Debugging, Exceptions, and Assertions								
13	Object Oriented Programming								
14	Object Oriented Programming								
15	Python Classes and Inheritance								
16	Assignment 2								
17									
18									
	教學策略 Teaching Strategies								
✓ 課堂講	✓ 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 ■ 産學合作 Industy-Academia Cooperation									
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	配分比例 Percentage	多元評量方式 Assessments							
Items		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)									
期中考成績 Midterm Exam									
期末考成績 Final Exam									
作業成績 Homework and/or Assignments	100%	<b>~</b>	~						
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.)

Introduction to Computation and Programming Using Python with Application to Understanding Data, 2nd Edition

## 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.)

 $https://ocw.\,mit.\,edu/courses/electrical-engineering-and-computer-science/6-0001-introduction-to-computer-science-and-programming-in-python-fall-2016/lecture-videos/$ 

其他補充說明(Supplemental instructions)