


國立東華大學
教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	演算法實驗		學年/學期 Academic Year/Semester	114/2	
課程名稱(英文) Course Name in English	Lab of Algorithm Design				
科目代碼 Course Code	CSIEB0180	系級 Department & Year	學二	開課單位 Course-Offering Department	資訊工程學系
修別 Type	學程 Program	學分數/時間 Credit(s)/Hour(s)	1.0/		
授課教師 Instructor	/楊舜博				
先修課程 Prerequisite					
課程描述 Course Description					
We focus on the strategies for designing algorithms including greedy, divide-and-conquer, and dynamic programming strategies. We also cover problems related to the graphs and network flows. Finally, the theory of NP-Completeness will be introduced.					
課程目標 Course Objectives					
從『做中學』來了解各種演算法的設計策略，並驗證課堂所闡述的理論，以培育訓練理論與實務具備的學生					
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				
2	Algorithm design and analysis				
3	Divide-and-Conquer				
4	Divide-and-Conquer				
5	Dynamic programming				
6	Dynamic programming				
7	Greedy approach				
8	Greedy approach				
9	期中考試週 Midterm Exam				
10	Backtracking				
11	Branch-and-Bound				
12	Graph algorithms				
13	Graph algorithms				
14	Maximum flow				
15	Computational complexity and intractability				

16	Metaheuristics algorithms	
17	Metaheuristics algorithms	
18	期末考試週 Final Exam	

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)									
期中考成績 Midterm Exam									
期末考成績 Final Exam									
作業成績 Homework and/or Assignments	100%		✓	✓					
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.)

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)