



課 綱 Course Outline

資訊工程學系國際組

中文課程名稱 Course Name in Chinese	演算法				
英文課程名稱 Course Name in English	Algorithm Design and Analysis				
科目代碼 Course Code	CSIEB0120	班 別 Degree	學士班 Bachelor' s		
修別 Type	學程 Program	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite	資料結構				
課程目標 Course Objectives					
Practice the design and analysis of algorithms to understand how various algorithms are made					
系教育目標 Dept.' s Education Objectives					
1	具備學科知識，養成專業技能 Acquire academic knowledge, develop professional skills				
2	學習創新思考，分析解決問題 Inspire innovative thinking, increase analytical problem solving ability				
3	培養團隊精神，學習溝通合作 Promote teamwork spirit, encourage coordination and cooperation				
4	提昇專業倫理，承擔社會責任 Sublimate professional ethics, engage social responsibility				
5	涵育人文素養，開拓國際視野 Cultivate humanities, broaden global perspectives				
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	資訊專業終身學習能力 Ability of lifetime learning in information profession			●	
B	實驗驗證資訊科學能力 Ability of validate experimental result validation in information science field			●	
C	資訊工具整合運用能力 Ability of integrated applications of information technology			●	

D	資訊系統應用設計開發能力 Ability of information application system design and development	●
E	團隊合作溝通協調能力 Ability of teamwork, communication, and coordination	○
F	資通訊科技問題解決能力 Ability of problem solving regarding information and communication technology	○
G	瞭解資訊科技多元影響能力 Ability to understand information technology' s multiple influences	○
H	肩負資訊人社會責任能力 Ability of bearing the social responsibilities being among information professionals	

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

課程大綱
Course Outline

1. Notation and Analysis of Algorithms
2. Divide-and-Conquer Algorithms
3. Dynamic Programming Algorithms
4. Greedy Algorithms
5. Backtracking Algorithms
6. Branch-and-Bound Algorithms
7. The Sorting Problem
8. The Searching Problem
9. The Hard Problem

資源需求評估（師資專長之聘任、儀器設備的配合．．．等）
Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

Existing suitable full-time teachers

課程要求和教學方式之建議
Course Requirements and Suggested Teaching Methods

Class lectures and homework exercises

其他
Miscellaneous