



課 綱 Course Outline

資訊工程學系國際組

中文課程名稱 Course Name in Chinese	最佳化與決策專題				
英文課程名稱 Course Name in English	Topics on optimization and decision making				
科目代碼 Course Code	CSIEM0050	班 別 Degree	碩士班 Master' s		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					
課程目標 Course Objectives					
This course aims to build the capability in multi-criteria/ multi-objective decision making and soft computing.					
The syllabus covers several key areas, including optimization, multi-criteria/ multi-objective decision making, optimization in classification, etc.					
Besides lectures, paper reading and discussions are required. One of the goals is to help the students get prepared for their thesis development.					
系教育目標 Dept.'s Education Objectives					
1	探究學科知識，善用專業技能 Explore academic knowledge, utilize professional skills.				
2	訓練評析思考，創新解決問題 Exercise analytical thinking, enhance creative problem solving skills.				
3	學習團隊分工，強化溝通表達 Participate in teamwork, strengthen communication skills.				
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	統合資工知識技術之能力 Ability to integrate knowledge and technologies of computer science and information engineering.			○	
B	設計技術理論驗證實驗之能力 Ability to design and conduct science experiments and to validate hypotheses.			●	

C	資訊軟硬體設計開發之能力 Ability to design and develop computer software and hardware.	○
D	團隊專案開發之能力 Ability to design and develop team projects.	○
E	批判性思考與創新研發之能力 Ability of analytical thinking, creative research planning, and innovative development.	●

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

課程大綱
Course Outline

1. 非線性規畫 (nonlinear programming)
2. 模糊規畫 (fuzzy programming)
3. 多目標決策 (multiple criteria/ multiple objective decision making)
4. 賽局理論 (game theory)
5. 最佳化在分類方法的應用 (optimization in classification)

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.)

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

Class lectures, assignments, lab sessions and term project

其他
Miscellaneous