



# 課 綱 Course Outline

## 運籌管理研究所碩士班一般組

中文課程名稱 Course Name in Chinese	網路分析與應用				
英文課程名稱 Course Name in English	Network Analysis and Applications				
科目代碼 Course Code	GSLM52500	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					
介紹運輸網路均衡分析(Transportation Network Equilibrium Analysis)，及常用的網路流量問題，包含最大流量問題(Maximum Flow Problem)、最小成本流量問題(Minimum Cost Flow Problem)及多元商品流量問題(Multicommodity Flow Problem)等。					
系教育目標 Dept.' s Education Objectives					
1	培養具備管理科學與運籌供應鏈知識能力之專業人才。 To nurture professionals with knowledge and skills in management science, logistics, and supply chain management				
2	培養具備邏輯思考與決策分析能力之管理專業人才。 To nurture management professionals with logical thinking and analytical decision skills				
3	培養具備國際溝通與簡報能力之專業人才 To nurture bilingual professionals with communication and presentation skills				
4	培養具有國際視野與在地經驗之運籌管理專才。 To nurture professionals in logistics management with global vision and local experience				
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	基礎運籌、供應鏈管理知識 Foundations on logistics and supply chain management			○	
B	運籌系統管理知識 Knowledge on logistics system management			●	

C	運籌工具方法知識 Knowledge on analytical tools and methodologies in logistics	●
D	語文表達能力 Language and communication skills	○
圖示說明Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated		
課程大綱 Course Outline		
1. Introduction 2. Transportation Networks 3. Network Flow Models and Algorithms 4. Graph Search Algorithms 5. Maximum-Flow Problems 6. Minimum-Cost Flow Problems 7. Multicommodity Flow Problem 8. Formulating the Assignment Problem 9. User Equilibrium 10. System Optimum		
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.)		
教師以有管理科學、運輸及工業工程之專業或經驗者為宜。		
課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods		
課堂講授及討論		
其他 Miscellaneous		