

朝陽科技大學 099學年度第1學期教學大綱
Operations Research 作業研究

當期課號	7426	Course Number	7426
授課教師	陳宏益	Instructor	CHEN,HUNG YI
中文課名	作業研究	Course Name	Operations Research
開課單位	資訊管理系碩士班一A	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	作業研究是在探討如何利用有限的資源(人力、物力、財力),使其發揮其最高效能,或是如何以最經濟的成本,有效達成預期之目標。且由於目前電腦提供大量計算的便利,使得作業研究不論在理論或是應用上均益驅普及。課程包含有介紹作業研究的定義、應用範圍、線性規劃、運輸問題	Objectives	This course is about the use of quantitative models to aid in managerial decision making. An emphasis is placed on understanding the management science models and utilizing the results of these models in a way that is meaningful to a decision maker.
教材	Hiller, F.S. and Liberman, G.J., Introduction to Operation Research, McGraw-Hill. Lecture notes.	Teaching Materials	Hiller, F.S. and Liberman, G.J., Introduction to Operation Research, McGraw-Hill. Lecture notes.
成績評量方式	學生行為舞弊者, 期末成績以不及格計請準時繳交作業 課堂參與 10% 作業 20% 研究計劃 30% 小考 40%	Grading	Important: Cheating will make you fail in this course. No late homework will be accepted. No plagiarised homework will be accepted. Grading: Participating: 10%. Assignment: 20%. Research project : 30%. Exam: 40%.
教師網頁	-		
教學內容	本課程將教授決策與最佳化問題的相關理論與演算法。這些演算法大致分為決定性模式與機率模式。在決定性模式中的演算法包括: the linear and integer programming problem, heuristic algorithms for the combinatorial optimization problem。在機率模式中的演算法包括 Markov chain, queuing theory。 學生須具備基礎線性代數及機率理論的基本知識。	Syllabus	The course will introduce the algorithms and theories for optimization problems and the decision making. Algorithms to solve the linear and integer programming are introduced. Heuristic algorithms for the combinatorial optimization problem are also included. In addition to these deterministic models, Markov chain and queuing theory in the stochastic models are introduced. Students should familiar the linear algebra and basic probability concepts in order to understand the material. Topics include: Deterministic model: Linear programming; Simplex algorithm; Duality theory and sensitivity analysis; Integer programming; Genetic algorithm; Simulate annealing algorithm; Tabu search; Markov chain; Queuing theory;