朝陽科技大學 093學年度第2學期教學大綱
Introduction to Software Computing 軟體計算概論

當期課號	2040	Course Number	2040
授課教師	黃惠俞	Instructor	HUANG,HUI YU
中文課名	軟體計算概論	Course Name	Introduction to Software Computing
開課單位	資訊工程系(四日)四A	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	這門課的目標是提供學生有關軟式計算的基礎，課程主題包含圖形辨識方法、貝氏理論、神經元與適應性線性過濾器、多重階層神經元與後傳遞學習、遞迴式網路與最佳化、支援向量機。在完成這門課之後，學生將可以學習到下面幾點：1.運用監督式學習在圖形辨識上；2.使用軟式計算的方法來解決問題；3.開發有關圖形分類、資訊搜尋與擷取以及資料分析或認證的應用程式	Objectives	The goal of this course is to provide the students with a basic knowledge of soft computing. The main topics include subspace method of pattern recognition, Bayes' theorem, statistical pattern recognition, perceptron and adaptive linear filters, multilayered perceptrons (MLPs) and back propagation (BP) learning, recurrent networks and optimization, and support vector machines (SVM). The students will realize the following concepts after finishing this course: 1. put on pattern recognition by supervised learning; 2. solve problems by using soft computing methods; 3. develop applications of pattern classification, information search and retrieval, data analysis and authentication.
教材	Neuro-Fuzzy and Soft Computing Authors: J.-S. R. Jang, C. T. Sun, and E. Mizutani Prentice Hall, 2004	Teaching Materials	
成績評量方式	1.期中考 2.作業 3.上台報告及繳交期末報告	Grading	1. Midterm 40% 2. Homework 30% 3. Presentation and report 30%
教師網頁			
教學內容	－介紹 －模糊集合理論 －類神經網路 －以微分爲基礎之最佳化 －非以微分爲基礎之最佳化 －類神經模糊模型 －進化演算法 －模擬退火	Syllabus	－Introduction to soft computing －Fuzzy set theory －Neural networks －Derivation-based optimization －Derivation-free optimization －Neuro-fuzzy model －Evolution algorithm －Simulated annealing