朝陽科技大學 094學年度第2學期教學大綱
Design of Experiment 實驗設計

當期課號	1405	**Course Number**	1405
授課教師	洪弘祈	**Instructor**	HORNG,HORNG CHYI
中文課名	實驗設計	**Course Name**	Design of Experiment
開課單位	工業工程與管理系(四日)三A	**Department**	
修習別	選修	**Required/Elective**	Elective
學分數	3	**Credits**	3
課程目標	使學生具備下述之能力。 a. 了解變異數分析之理論； b. 設計並執行實驗； c. 選擇適當之實驗設計來解決特定問題； d. 分析實驗結果之統計資料； e. 萃取影響反應變數之重要因子； f. 有效溝通並呈現實驗設計分析結果。	**Objectives**	Students will be able to: a. Understand the theory of ANOVA. b. Design and conduct an experiment. c. Select adequate experimental designs for a given real-world problem. d. Perform statistical analysis on experiment results. e. Identify important factors for response variables. f. Communicate the results of DOE analysis both orally and in writing.
教材	Design and Analysis of Experiments(6th Ed), D. C. Montgomery, (John Wiley & Sons), 2005. 歐亞書局代理。	**Teaching Materials**	
成績評量方式	作業 15% 考試 50% 專題報告 35% (簡報 10%, 報告 25%)	**Grading**	Homework 15% Exam 50% Project 35% (oral 10%, report 25%)
教師網頁			
教學內容	此課程探討變異數分析與實驗設計之理論及應用，內容包括隨機化、完全/不完全區隔設計、二/三水準實驗設計、混合設計、以及田口式實驗設計。課程重點在於各種實驗設計之效率與可取得資訊之比較。透過一系列的案例演練來增進實驗設計分析的技巧，並以專題報告的方式來提昇學生的溝通及寫作能力。	**Syllabus**	The course presents the principles and practice of ANOVA and Design of Experiments, including randomization, complete and incomplete block design, two/three level factorial design, mixture design, and Taguchi's method. The focus of the course is on the comparisons of different experimental designs based on the efficiency and the information gathered/missed. A series of design exercises provides a key bridge between the DOE theory and the application of software to an open-ended DOE problem. Communication skills are developed with both written and oral presentation.

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