

朝陽科技大學 094學年度第1學期教學大綱
Design of Experiment 實驗設計

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| 當期課號 | 7660 | Course Number | 7660 |
| 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 | 工業工程與管理系碩士在職專班二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(5th Ed), D. C. Montgomery, (John Wiley & Sons), 2001. 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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