

加開選修		Area麻煩老師勾選類別，或直接填寫_____。	
		<input type="checkbox"/> 代數與數論 <input type="checkbox"/> 分析 <input type="checkbox"/> 幾何與拓樸 <input type="checkbox"/> 計算與應用數學 <input type="checkbox"/> 機率 <input type="checkbox"/> 統計 <input type="checkbox"/> 離散數學 <input type="checkbox"/> 其他 <input type="checkbox"/> 論文研討、獨立研究	
Course title	課程名稱： 實驗設計		
Instructor	教授： 鄭清水		
開設學期： ■上學期	上課時間： 星期 節次	開課對象： <input type="checkbox"/> 大學生 <input type="checkbox"/> 研究生 <input type="checkbox"/> 皆可	
<p>I. *Contents :</p> <ul style="list-style-type: none"> ■ Introduction ■ Randomization and blocking ■ Linear model basics ■ Factors ■ Examples of orthogonal designs: completely randomized designs, complete block designs, and Latin squares ■ Examples of non-orthogonal designs: balanced incomplete block designs ■ Optimality and construction of balanced incomplete-block and other designs ■ Block structures ■ Factorial treatment structures ■ Complete factorial designs ■ Fractional factorial designs and orthogonal arrays ■ Coding and projective geometric connections ■ Response surface methodology ■ Applications ■ Other topics as time permits <p>II. Course prerequisite :</p> <p>Linear algebra and statistical inference Some knowledge of linear models, groups, and finite fields; a review will be provided.</p> <p>III. *Reference material (textbook(s)) :</p> <p>Theory of Factorial Design: Single and Multi-Stratum Experiments by Ching-Shui Cheng, Chapman & Hall/CRC, 2014 Experiments: Planning, Analysis, and Parameter Design Optimization, 2nd Edition by C. F. J. Wu and M. Hamada, Wiley, 2009</p> <p>IV. *Grading scheme : 請填寫各項計分之百分比，例如：期中30% 期末40% 作業10% 報告20%，總計100%</p> <p>Grades will be based on homework assignments.</p> <p>V. *Course Goal :</p> <p>Design of experiments is concerned with the planning of experiments to extract valid information as efficiently as possible. The objective of this course is to provide a rigorous and systematic treatment of the design and analysis of comparative experiments, with particular emphasis on factorial designs, which allow one to study many factors at the same time. The course may be of interest to students who would like to see some applications of combinatorial mathematics.</p>			