

佛光大學 課程大綱 Course Outline

課程名稱 Course Name in Chinese	應用統計學				
英文課程名稱 Course Name in English	Applied Statistics				
科目代碼 Course Code	PA25A			班別 Degree	<input checked="" type="checkbox"/> 學士班 Undergraduate Program <input type="checkbox"/> 碩士班 Masters Program <input type="checkbox"/> 博士班 PhD Program
學分數 Credit	3	時數 Hour	3	修別 Type	<input checked="" type="checkbox"/> 必修 Required <input type="checkbox"/> 選修 Elective
學程別 Program	<input type="checkbox"/> 通識教育 General Education <input type="checkbox"/> 院基礎 Foundation <input type="checkbox"/> 跨領域 Interdisciplinary <input checked="" type="checkbox"/> 系核心 Core <input type="checkbox"/> 學系專業選修 Specialized Elective				
先修課程 prerequisite					
課程描述 Course Description					
<p>本課程旨在於介紹統計學的基本概念和原理，及其在政治學研究領域的應用。課程要求方面，除了計算練習外，還包括電腦習作。課程目標是期望學期結束時，學生能夠瞭解一般統計數字所代表的意義，並且學習實證研究中統計分析的基本原則與操作程序。 This course begins with an introduction to the basic concepts of statistical analysis, the steps-by-steps methods of data gathering, and the potential biases resulting from the abuse and misuse of statistical techniques. Weekly lectures will discuss different analytical techniques and provide students a variety of data sets to practice with. The course establishes techniques for determining whether relationships between variables, particularly intervention and outcome variable, exist in the sense that the appearance of an association cannot be explained by chance. This is done in the interest of making predictions and judgments, particularly about what hypotheses are and are not supported by a set of data and to what extent the data support them. We explore their differences, using examples from the social sciences and cutting-edge computing and graphical techniques.</p>					
課程目標 Course Objectives					
<p>學期結束時，期望同學們學會：</p> <ul style="list-style-type: none"> ● 描述統計 (單一變數分佈和雙變數相關的統計量) ● 以圖形呈現資料 ● 基礎機率和抽樣分佈 ● 變異數分析和回歸分析 ● 使用統計軟體 (SPSS 和 R) <p>After taking a course of applied statistics, the students are expected to learn:</p> <ul style="list-style-type: none"> ● Descriptive statistics (measures of univariate distributions and bivariate relationships) 					

<ul style="list-style-type: none"> ● Graphic presentation of data ● Elementary probability and sampling distribution ● ANOVA and regression techniques ● The use of computing programs (SPSS and R) 		
教育目標 Education Objectives		
1	培養各級政府行政管理之人才	
2	培養參與各類公共事務及關懷社會弱勢之現代公民	
3	培養具全球視野與處理兩岸事務能力之人才	
4	培育兼具理性思考與行動能力之人才	
核心能力（專業能力） Learning Outcomes (Basic Learning Outcomes)		課程目標與基本素養 與核心能力相關性 Correlation between Course Objectives and learning Outcomes
A	政策規劃與政策分析能力	◎
B	公民參與及意見彙整能力	
C	專業活動規劃與控管能力	◎
D	溝通協調與團隊合作能力	
E	應變處理與問題解決能力	★
F	地方發展與全球事務解析能力	
圖示說明：Illustration：★高度相關 Highly correlated ◎中度相關 Moderately correlated		
課程綱要 Course Outline		
<ul style="list-style-type: none"> ● 變數與測量 ● 表格、數字和繪圖描述 ● 常態分佈和抽樣分佈 ● 估計與信賴區間 ● 假說檢定 ● t 檢定和卡方適合度檢定(單一樣本) ● 雙變數的相關性分析 ● 變異數分析 ● 非參數統計 ● 複合交叉表、加入控制變數 ● 線性迴歸 ● 使用 SPSS 和 R ● Variables and measurement 		

- Descriptive statistics
- Normal distribution and sampling distribution
- Estimation and confidence intervals
- Hypothesis testing
- Student t and Chi-squared tests
- Correlations of two variables
- Analysis of variance
- Nonparametric statistics
- Cross-tabulation
- Linear regression models
- The use of SPSS and R

資源需求評估（師資專長之聘任、儀器設備配合...等）

Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

建議由受過統計學訓練背景的博士級教師進行講授。

The Instructor should be a qualified faculty with some statistical training background.

課程要求及教學方式之建議

Course Requirements and Suggested Teaching Methods

建議以課堂講授為主，分組討論為輔；並要求學生養成預覽習慣、準時上課、專心聽講、認真抄寫筆記、積極參與課堂討論、按時繳交作業和努力準備考試，同時具備資料收集，文獻摘要批判，和獨立撰寫短篇報告與發表簡報的能力。

The course will be conducted mainly by lectures, and complimented by group discussion. Students are expected to read and follow the schedule in the course syllabus, to read assigned text chapters, to read assigned Lecture Notes, and to seek and read additional suggested resources as provided by the textbook and Instructor. In addition, students are expected to be alert and attentive with note taking in class and have a demonstrated desire to participate in any discussion. Exams are to be completed within the deadlines given by the Instructor, and any special instructions for the paper and/or writing assignment(s) are to be followed precisely.

其他

Miscellaneous