

淡江大學 110 學年度第 2 學期課程教學計畫表

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| 課程名稱 | 機率論 | 授課 教師 | 林光男 LIN KUANG-NAN |
| | INTRODUCTION TO PROBABILITY THEORY | | |
| 開課系級 | 統計二 C | 開課 資料 | 實體課程 必修 下學期 3學分 |
| | TLSXB2C | | |
| 課程與SDGs 關聯性 | SDG3 良好健康和福祉 SDG8 尊嚴就業與經濟發展 | | |
| 系 (所) 教育目標 | | | |
| 一、培育學生具基本的統計理論能力。 二、培育學生具數據分析的能力。 三、培育學生成為具管理素養的統計專才。 | | | |
| 本課程對應院、系(所)核心能力之項目與比重 | | | |
| A. 基本統計理論能力。(比重：100.00) | | | |
| 本課程對應校級基本素養之項目與比重 | | | |
| 1. 全球視野。(比重：5.00) 5. 獨立思考。(比重：95.00) | | | |
| 課程簡介 | 本課程介紹機率之基本概念及其運算，內容包括機率空間、條件機率、獨立性、貝氏定理、隨機變數及其分配、動差母函數、多變量機率分配、共變異數、隨機變數函數之分配、抽樣分配、順序統計量和極限理論。 | | |
| | This course is an introduction to the theory of probability. Topics include probability space, conditional probability, independence, Bayes rule, random variables and their distributions, moment generating functions, multivariate probability distributions, covariance, distributions of functions of random variables, sampling distributions, order statistics, and limiting theorems. | | |

本課程教學目標與認知、情意、技能目標之對應

將課程教學目標分別對應「認知 (Cognitive)」、「情意 (Affective)」與「技能(Psychomotor)」的各目標類型。

- 一、認知(Cognitive)：著重在該科目的事實、概念、程序、後設認知等各類知識之學習。
- 二、情意(Affective)：著重在該科目的興趣、倫理、態度、信念、價值觀等之學習。
- 三、技能(Psychomotor)：著重在該科目的肢體動作或技術操作之學習。

| 序號 | 教學目標(中文) | 教學目標(英文) |
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| 1 | 培育學生具基本的統計理論能力,培育學生具數據分析的能力,培育學生成為具管理素養的統計專才 | (1)Let Students understand the basic properties of probability. (2) Give students a very good fundation in learning Statistical theory. |
| 2 | 培育學生基本統計能力及數據分析能力 | Let Students to have the Basic Statistical ability and the ability of analysis of data |
| 3 | 讀學生具有機率之基本概念, 運算能力及其運用。 | Let students have the basic concepts in Probability , ability in calculation and area of applications. |
| 4 | 讓學生了解機率之基本概念及訓練其運算能力。 | Let students have tha basic concepts in probability theory and ability in calculation |
| 5 | 讓學生了解機率基本概念及訓練其計算能力。 | Let students have the basic concepts in probability theory and have the ability in calculation |
| 6 | 讓學生有計算、分析及邏輯判斷能力 | Let students to have the ability of calculation, analysis, and logic judgement |
| 7 | 讓學生具有計算、邏輯分析能力 | In order to let students to have the ability of calculation an logic analysis |

教學目標之目標類型、核心能力、基本素養教學方法與評量方式

| 序號 | 目標類型 | 院、系(所)核心能力 | 校級基本素養 | 教學方法 | 評量方式 |
|----|------|------------|--------|------|-------|
| 1 | 認知 | A | 15 | 講述 | 測驗、作業 |
| 2 | 認知 | A | 15 | 講述 | 測驗 |
| 3 | 認知 | A | 15 | 講述 | 測驗 |
| 4 | 認知 | A | 15 | 講述 | 測驗 |
| 5 | 認知 | A | 15 | 講述 | 測驗 |
| 6 | 認知 | A | 15 | 講述 | 測驗 |
| 7 | 認知 | A | 15 | 講述 | 測驗 |

授課進度表

| 週次 | 日期起訖 | 內容 (Subject/Topics) | 備註 |
|----|-------------------------|------------------------------------|----|
| 1 | 111/02/21~ 111/02/25 | Ch.3, Normal Dist. & Uniform Dist. | |
| 2 | 111/02/28~ 111/03/04 | Ch.3, Median and Mode of a R.V. | |

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| 3 | 111/03/07~ 111/03/11 | Ch.3, Median and Mode of a R.V. | |
| 4 | 111/03/14~ 111/03/18 | Ch.4, Joint d.f. and Joint p.d.f. of Two R.V.'s | |
| 5 | 111/03/21~ 111/03/25 | Ch.4, Marginal and Conditional p.d.f.'s (Quiz 1, Using Recitation Class) | |
| 6 | 111/03/28~ 111/04/01 | No Class! Spring Vacation. | |
| 7 | 111/04/04~ 111/04/08 | Ch.4, Conditional Expectation and Variance | |
| 8 | 111/04/11~ 111/04/15 | Ch.4, Expectations of a Function of Two R.V.'s, Joint & Marginal m.g.f.'s | |
| 9 | 111/04/18~ 111/04/22 | Ch.4, Covariance, & Correlation Coefficient | |
| 10 | 111/04/25~ 111/04/29 | 期中考試週 | |
| 11 | 111/05/02~ 111/05/06 | Ch.4, The Multinomial & the Bivariate Normal Dist.'s | |
| 12 | 111/05/09~ 111/05/13 | Ch.4, The Multinomial & the Bivariate Normal Dist.'s | |
| 13 | 111/05/16~ 111/05/20 | Ch.5, Independent R.V.'s and Criteria of Independence Ch.5, The Reproductive Property of Certain Distributions | |
| 14 | 111/05/23~ 111/05/27 | Ch.5, The Reproductive Property of Certain Distribution (Quiz 2, Using Recitation Class) | |
| 15 | 111/05/30~ 111/06/03 | Ch.6, Transforming of a Single R.V | |
| 16 | 111/06/06~ 111/06/10 | Ch.6, Transforming Two or More R.V.'s 期末考試 | |
| 17 | 111/06/13~ 111/06/17 | Ch.6, Transforming Two or More R.V.'s | |
| 18 | 111/06/20~ 111/06/24 | 期末考試週 | |
| 修課應 注意事項 | <p>平時成績: Quiz1: 8%, Quiz2: 10%, Recitation Class and Attitude of Learning: 15%.</p> <p>Attitude of Learning:</p> <ol style="list-style-type: none"> (1) Be on time to come to the class. (2) Shut off your mobile phone. (3) Don't talk to each other in the class. (4) Don't sleep in the class. (5) No food and drink in the class. | | |
| 教學設備 | 電腦 | | |
| 教科書與 教材 | G. G. Roussas, An Introduction to Probability and Statistical Inference, 2nd edn., Elsevier Taiwan LLC, 2015 | | |
| 參考文獻 | <ol style="list-style-type: none"> (1) S. Ross, A First Course in Probability, 5th Edn., Prentice Hall, New York, 1998. (2) G. G. Roussas, A Course in Mathematical Statistics, 2th Edn., Academic Press, New York, 1997. | | |
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| 批改作業 篇數 | 篇（本欄位僅適用於所授課程需批改作業之課程教師填寫） |
| 學期成績 計算方式 | ◆出席率： % ◆平時評量：33.0 % ◆期中評量：32.0 % ◆期末評量：35.0 % ◆其他〈 〉： % |
| 備 考 | 「教學計畫表管理系統」網址： https://info.ais.tku.edu.tw/csp 或由教務處 首頁→教務資訊「教學計畫表管理系統」進入。 ※不法影印是違法的行為。請使用正版教科書，勿不法影印他人著作，以免觸法。 |