

數學系課程核心教材內容

課程名稱：(中文) 機率模型 (英文) Probability Models			開課單位	學士班	
			課程代碼	2102702	
學分數	3	必/選修	選修	開課年級	二
<p>教學目標： This course is intended as an introduction to elementary probability theory and stochastic processes. It is particularly suited well for those wanting to see how probability theory can be applied to the study of phenomena in fields such as engineering, computer science, and operation research.</p> <p>課程概述：由機率論基本概念出發，介紹重要機率分布，條件機率的觀念，及馬可夫鍊。</p> <p>先修科目或先備能力：</p>					
建議參考書目		Ross, M. S. (2007). Introduction to Probability Models. Academic Press: New York.			

課程大綱

單元主題	內容綱要	上課週數
Probability theory	Concept of a random variable, simple derivation of the joint distribution, some important probability distributions	4
Conditional probability and expectation	Conditioning is one of the key tools of probability theory. It often enables us to easily solve problems.	4
Markov chain	Transition probabilities, examples of Markov chains, stationary distribution, limiting distribution of chains	6
Counting processes	Markov pure jump processes, introduction of Poisson processes	2