

國立清華大學課程大綱-大學部

科號	IEEM4200	組別		學分	3	人數限制	50
上課時間	W7W8W9			教室	104		
科目中文名稱	機率與統計應用--模擬學						
科目英文名稱	Probability and Statistics Applications--Simulation						
任課教師	桑慧敏						

※下列各欄由任課教師提供※

依 IEET 與評鑑精神,本系擬定之核心能力如下,教師請勾選本課程所欲培養之核心能力,並根據此建立核心能力達成指標,以課程評分量表(Rubrics)作為評估方法,並依據此評分量表確認及評估教學成效,是否作後續教學改進之用。(課程對應之核心能力並非要求”全選”,無對應到的核心能力”可以不選”)

此科目對應之系所課程規畫所欲培養之核心能力 Core capability to be cultivated by this course	<input checked="" type="checkbox"/>	Integration-將工業工程與工程管理各項技術整合應用,有效處理工工領域相關議題 Abilities of integrating various technologies of Industrial Engineering and Engineering Management	50%
	<input checked="" type="checkbox"/>	Information -資訊科技的善加應用,以利解決工工領域之問題 Utilization of information technology to problem solving and applications in the field of Industrial Engineering	50%
	<input type="checkbox"/>	Interaction-協調溝通與團隊精神的發揮 Coordination and communication abilities with teamwork	___%
	<input type="checkbox"/>	Innovation/Ideas-激發創造力、培養創新思維 Creative and innovative capabilities	___%
	<input type="checkbox"/>	Internationalization-國際化互動與表達能力 Global interaction and public presentation skills	___%
一、課程說明	This course describes tools for simulation (modeling and analysis) of systems that evolve dynamic over time and whole behavior is uncertain. The goal is to describe these tools in a way that exploits your common sense and intuition about dynamic systems, but also enables you to use the simulation software (FlexSim 6), probability, and statistics at your proposal to perform a detailed analysis. At the end of this semester, you learn how to use FlexSim to analyze stochastic systems, you should also learn much more about probability and statistics.		
二、指定用書	The course will be taught primarily from CLASS NOTES.		
三、參考書籍	1. FlexSim 6 - 3D Simulation Software 2. Law and Kelton, Simulation Modeling and Analysis, McGraw-Hill, 1982. 3. Lewis and Orav, Simulation Methodology for Statisticians, Operations Analysis, and Engineers, V.1, Wadsworth and Brooks/Cole, 1989.		
四、教學軟體	FlexSim 6, R, Excel		
五、教學方式	Lecturing and discussion		
六、教學進度	Three major parts • input modeling (random numbers, random variable generation) • modeling (MS Excel and FlexSim) • output analysis (statistics)		

七、成績考核	Homework	20%
	Quiz	20%
	Mid-Term Exam. 1	20%
	Mid-Term Exam. 2	20%
	Final	20%
八、講義位址 http://	140.114.54.119 or ilms	
九、核心能力達成指標	<p>只要和課程有對應之核心能力，每項核心能力需列出至少一項「核心能力達成指標」，用以評量學生對核心能力的學習程度，期末將請同學進行自評。</p> <p>請老師填完後於此課程大綱上方簽名。</p> <p>以下列出三項系定核心能力之 Rubrics 範例供參考，例填：1, 2, 4</p>	

核心能力 1：將工業工程與工程管理各項技術整合應用，有效處理工工領域相關議題

核心能力	1. 正確之機率與統計領域相關概念(50%)
達成指標	2. 應用機率與統計概念於各項模擬工具或方法(50%)

核心能力 2：資訊科技的善加應用，以利解決工工領域之問題

核心能力	1. 模擬軟體之操作及應用(50%)
達成指標	2. 資料之處理及解釋數據(50%)

授課老師簽名：_____