

國立臺灣大學新開課程開授申請表(社科院新開授課程審查用)

一、課程大綱

(如您有需開新課程，請填寫申請表，並繳交電子檔。電子檔已經寄至您的 Email)

課程名稱 Course Title	(中文 Chinese) (英文 English) Decision Theory					<input type="checkbox"/> 中文授課 <input checked="" type="checkbox"/> 英文授課 Chinese conducted/ English conducted
授課教師 Instructor	Hendrik Rommewinkel	任職單位 Department	Economics	專兼任 Full time/ Adjunct	X 專任 <input type="checkbox"/> 兼任	職級 Professor/ Associate Professor/ Assistant Professor /Instructor
開課系所 Department	Economics	課號 Curriculum Number		學分數 Credits	3	修課人 數上限 Student numbers
每週時數 Hours	<input checked="" type="checkbox"/> 演講 <u>3</u> 小時 <input type="checkbox"/> 實驗 <u>3</u> 小時					
課程性質	<input type="checkbox"/> 博士班課程 (D 字頭) <input type="checkbox"/> 碩士班課程 (M 字頭) <input type="checkbox"/> 高年級課程 (U 字頭) <input type="checkbox"/> 學士班課程			加選 方式 Selection method	<input type="checkbox"/> 1. 不限人數。 <input type="checkbox"/> 2. 發給授權碼 <input type="checkbox"/> 3. 人數限制 <u> </u> 人	
課程大綱內容 (含課程概 述、教學目 標、每週進度 及教學內容簡 述) Course outlines	<p>一、課程概述 Course Description “Decision theory should be a guide to life.” This course examines decision theory from several perspectives.</p> <ol style="list-style-type: none"> 1. Normative Perspective: we analyze how individuals should make decisions 2. Descriptive Perspective: we analyze how individuals actually make decisions 3. Practical Perspective: we analyze how individuals can use the insights of the other two perspectives to improve their decisions. <p>Knowledge of intermediate microeconomics and a course in mathematics for economists or similar is required.</p> <p>二、教學目標 Course Objective The objective of the course is to learn about the main models of decisions under risk and uncertainty. Strong emphasis is put on student’s ability to creatively use these models to solve decision problems.</p>					

三、每週進度及教學內容簡述 **Course outline (Course Schedule of 18 weeks)**

Course sessions consists of quizzes, lectures, discussion/q+a, and, most importantly, a decision problem that is solved in class. Quizzes are always individual work while decision problems are solved in groups in some sessions. The course is held in two sessions per week for 6 weeks.

Session 1: Introduction to the course

Probability

Session 2: The Principle of Indifference and its problems – coins, dice, and strings on a circle

Do all dice deserve to be trusted at least once?

Reading: Part I up to (and including) Chapter 3

Session 3: Frequentism – Problem of Induction, Grue and Bleen Paradox

Why the next emerald you encounter might be blue.

Reading: Chapter 4

Session 4: Subjective Probability – Linda the bank teller, Pascal’s wager, Bayesianism

Why it is rationally required to believe in god – or flying spaghetti monsters.

Reading: Chapter 5

Behavioral Theories – Expected Utility

Session 5: Expected Utility – Risk – von Neumann-Morgenstern’s theorem, lotteries, mixture spaces (no class)

An imaginary trip to St. Petersburg and back.

Reading: Chapter 8

Session 6: Expected Utility – Uncertainty – de Finetti’s theorem

The “consumer theory” of decisions under uncertainty.

Reading: Chapter 9

Session 7: Expected Utility – Uncertainty – Savage’s theorem, Sure-Thing Principle, Monotonicity

How the “Euclid of Statistics” derived the “crowning glory of decision theory”.

Reading: Chapter 10

Session 8: Critiques of Savage’s theorem – Newcomb’s Paradox, state-dependence, multiple priors, information

Would you mind being hung so long as it is without damage to your health?

Reading: Chapters 11 & 12

Behavioral Theories – Nonexpected Utility

Session 9: Choquet Expected Utility – capacities, ambiguity version, comonotonicity

How a strange integral resolves behavioral paradoxes.

Reading: Chapter 15

Session 10: Preference for Flexibility

How to rationally choose restaurants in lane 118

Session 11: Value of information – information measures, curiosity

Of savages and sages – can it be rational to be a dissatisfied human or should we all be happy pigs?

Session 12: Exam

<p>指定閱讀及 延伸閱讀 Required readings and extension readings (Textbooks & Reference)</p>	<p>一、指定閱讀(請詳述每週指定閱讀) Required readings 二、Gilboa, I. (2009). <i>Theory of decision under uncertainty</i>. Cambridge University Press. 三、延伸閱讀(請詳述每週延伸閱讀) Extension readings Extension readings are provided in class.</p>
<p>成績評量方式 與標準 (請說明各項 評量項目內容 設計、比例及 標準) Grading</p>	<p>Quizzes 30% Decision Problems 30% Final 40%</p>
<p>本課程對學生 課後學習之要 求 Requirements for students after the class:</p>	<p>Make good decisions.</p>

二、授課教師申請開授課程之相關著作或近五年所發表之學術性著作目錄

(任教未滿2年之專(兼)任教師才須填寫此項目)**

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(請依數量自行增減編號)