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②國玄東華大學 教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	環境經濟特論				學年/學期 Academic Year/Se	114/1		
課程名稱(英文) Course Name in English	Special Topics on Environmental Economics							
科目代碼 Course Code	NRES71040	系級 Department 博士 & Year		開課單位 Course-Offering Department	自然資源與環境學系			
修別 Type	選修 Elective	學分數/時間 Credit(s)/Hour(s)			3.0/3.0			
授課教師 Instructor	/李俊鴻							
先修課程 Prerequisite								
課程描述 Course Description								

Today's environmental experts have a wide range of tools at their disposal for the design and evaluation of local, state, regional, and national policies. Many of these tools were developed at resources for the future (RFF), and the organization's contribution to the field of environmental economics remains one of its greatest legacies. Policymakers use a variety of methods, or instruments, to achieve certain goals. RFF experts evaluate the efficiency and cost-effectiveness of those instruments, and often identify novel approaches for policy design and implementation that help balance economic and environmental impacts. Valuation is the putting of a monetary price on nonmarket factors, such as health outcomes and ecosystem services. Research by RFF experts on this topic covers both stated and revealed preference approaches and incorporates recent advances in emerging fields, such as behavioral economics. Environmental regulations can correct harmful market failures, but almost always come with a price. Policymakers often conduct benefit - cost analyses to help balance environmental goals with economic growth. Experts at RFF have produced a rich body of work on the measuring of both benefits and costs, as well evaluating how such analyses are conducted in practice.

https://www.rff.org/environmental-economics-topics/policy-instruments-and-evaluation/

1. Policy Design Tools

Today's environmental experts use a wide range of tools at local, state, regional, and national levels.

Many of these tools were pioneered or refined at Resources for the Future (RFF).

RFF's greatest legacy is its contribution to the field of environmental economics.

2. Policy Instruments and Evaluation

Policymakers employ a variety of instruments to achieve environmental and economic goals.

RFF experts assess the efficiency and cost-effectiveness of these instruments.

They also propose novel approaches that help balance economic development with environmental protection.

3. Valuation of Non-Market Goods

Valuation assigns a monetary value to non-market factors (e.g., health outcomes, ecosystem services).

RFF's research covers:

Stated preference methods (e.g., surveys, choice experiments).

Revealed preference methods (observed market behavior).

Behavioral economics as an emerging field shaping valuation approaches.

4. Costs, Benefits, and Trade-Offs

Environmental regulations address market failures, but they impose costs.

Policymakers use benefit - cost analysis (BCA) to weigh trade-offs between environmental goals and economic growth.

RFF contributes to:

Measuring both benefits and costs.

Evaluating how BCAs are applied in practice.

課程目標 Course Objectives

環境經濟特論主要在自然資源與環境經濟、生態經濟及非市場財貨經濟分析的基礎上,探討自然的生態系統、環境與自然資源系統和人類的經濟活動之間的相互作用與影響,並繼而探究能夠維繫自然資源與環境永續、經濟效率與公平間的長期動態關係。有鑑於經濟發展與生態環境的密切關聯性,奠立了這個新近快速發展領域的研究基礎,本課程目標在於介紹此一領域之基本概念與研究課題,重要者諸如自然資源、環境、生態資源的價值、生態與環境資源的評估方法、環境價值、環境倫理、永續發展及綠色產出等。

	系專業能力 Basic Learning Outcomes	課程目標與系專業能 力相關性 Correlation between Course Objectives and Dept.'s Education Objectives
A	具備自然科學與社會科學的研究能力,並了解各種研究典範所蘊含的哲學基礎與世界觀To prepare the students with the ability to understand the natural and social science theories and paradigms	•
В	具備環境倫理與整全的生態哲思,並有能力轉化為思想論述與社會實踐To instill comprehensive consideration of environmental ethics, ecological principles and social practice	•
С	具備跨領域知識之整合能力,並能運用多元的策略落實於社會改革,以解決本土與全球的環境問題To implement sustainable lifestyles based on environmental ethics and ecological principles	•
D	能整合生態及社會文化的觀點,以獨立或團體動力方式評估環境議題,澄清相關的價值觀,並提出解決方案To implement ecological and social perspectives as an individual or in groups to evaluate, clarify, and provide solutions for relevant environmental issues	•
Е	具備在大學、政府、企業、第三部門或研究機構進行研究、教學、與社會關懷的能力The ability to do research, teach and encourage social concern in universities, governments, companies, NGO's or institutes	•

圖示說明Illustration : ● 高度相關 Highly correlated ○中度相關 Moderately correlated

授課進度表 Teaching Schedule & Content

週次Week	內容 Subject/Topics	備註Remarks		
	The Introduction Economic Evaluation on Natural Resources and Environmental Conservation			
	1. Why methods matter in environmental policy			
	2. Policy instruments: choosing the right tool for the job	See Haab T. C., McConnell, K.E., 2002.		
1	3. Valuing non-market outcomes: the core toolkit	"Valuing environmental and		
	4. Pricing and evaluating the climate impacts and natural resources management	natural Resources-the econometrics of nonmarket		
	5. Bringing it together in Benefit-Cost Analysis	valuation," Edward Elgar Press, Cheltenham, UK&		
	6. Evaluating policy performance: causal inference and ex-post learning	Northampton, MA, USA		
	7. Practical design tips for analysts and policymakers			
	8. Concluding remarks			
2	Principle of environmental economics Welfare Economics for Non-market Valuation (1)			
3	Welfare Economics for Non-market Valuation (2) Parametric Models for Contingent Valuation Student	Student Report and Discussion (1)		
4	No Class-National Holiday			
5	No Class-National Holiday			
6	Parametric Models for Contingent Valuation			

7	Modeling the Demand for Recreation Single Site Demand Estimation	Student Report and Discussion (2)						
8	Hedonic Price Equations and the Model							
9	Contingent behavior Approach (1)							
10	Contingent behavior Approach (2)	Student Report and Discussion (3)						
11	New Directions in Non-market Valuation References							
12	Choice experiment (I)							
13	13 Choice experiment (II) Student Report and Discussion (4)							
14	Pricing and evaluating the climate impacts							
15	Bringing it together in Benefit-Cost Analysis							
16	Evaluating policy performance: causal inference and ex-post learning	Student Report and Discussion (5)						
17	17 Practical design tips for analysts and policymakers							
18	Final report and discussions							
	教學策略 Teaching Strategies							
	授 Lecture	Field Trip						
	教學創新自評 Teaching Self-Evaluation							
創新教學(Innovative Teaching)							
問題導	向學習(PBL) 解決導向學	學習(SBL)						
翻轉教	室 Flipped Classroom							
社會責任(Social Responsibility)							
在地實踐Community Practice								
跨域合作(Transdisciplinary Projects)								
■ 跨界教學Transdisciplinary Teaching ■ 跨院系教學Inter-collegiate Teaching								
業師合授 Courses Co-taught with Industry Practitioners								
其它 othe	r:							

學期成績計算及多元評量方式 Grading & Assessments									
配分項目	多元評量方式 Assessments								
Items	配分比例 Percentage	測驗 會考	實作 觀察	口頭 發表	專題 研究	創作 展演	卷宗 評量	證照 檢定	其他
平時成績(含出缺席) General Performance (Attendance Record)	20%			✓	~				
期中考成績 Midterm Exam	0%								
期末考成績 Final Exam	30%		~	~	~				
作業成績 Homework and/or Assignments	50%		~	~	~				
其他 Miscellaneous									

評量方式補充說明

Grading & Assessments Supplemental instructions

教科書與參考書目(書名、作者、書局、代理商、說明)

Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

Haab T. C., McConnell, K.E., 2002. "Valuing environmental and natural Resources—the econometrics of non-market valuation," Edward Elgar Press, Cheltenham, UK& Northampton, MA, USA

 $https://web.\ p.\ ebscohost.\ com/ehost/detail/detail?vid=0\&sid=ca72d822-13cc-45dc-be90-2f2ad75ea002\% \ 40redis\&bdata=Jmxhbmc9emgtdHcmc210ZT11aG9zdC1saXZ1$

課程教材網址(含線上教學資訊,教師個人網址請列位於本校內之網址)

 $\label{thm:condition} \mbox{Teaching Aids \& Teacher's Website} (\mbox{Including online teaching information.}$

Personal website can be listed here.)

Providing the reading materials for the course discussions.

其他補充說明(Supplemental instructions)

More interaction between students and teacher, and learn from each other.