



課 綱 Course Outline
自然資源與環境學系碩士班國際組

中文課程名稱 Course Name in Chinese	淨零碳排				
英文課程名稱 Course Name in English	Net Zero Emissions				
科目代碼 Course Code	NRESM0580	班 別 Degree	碩士班 Master' s		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					
課程目標 Course Objectives					
1.Climate Change Response Strategies: Equip students with knowledge of climate change response strategies, including understanding climate change impacts, conducting climate risk assessments, managing climate risks, and developing adaptive measures. 2.ISO 14064-1 Greenhouse Gas Inventory: Introduce the ISO 14064-1 standard and teach students how to conduct greenhouse gas inventories, including determining boundaries, defining scopes, collecting data, and calculating emissions. 3.ISO 14064-2 Project-Level Greenhouse Gas Reductions or Removals: Familiarize students with ISO 14064-2, focusing on calculating and reporting greenhouse gas reductions or removals at the project level. 4.ISO 14068 Carbon Neutrality Implementation Standard: Provide a comprehensive understanding of the ISO14068 standard, which covers carbon footprint calculation, reduction measures, and carbon offset methods.					
系教育目標 Dept.' s Education Objectives					
1	培養兼具國際視野與本土關懷的學生 To develop students who care about local issues and have an international perspective.				
2	培養具備自然科學與社會科學知識的人才 To educate students to have knowledge of both the natural and social sciences.				
3	培養具備環境倫理與人文素養的環境公民 To teach students to be environmental citizens (i.e., knowledgeable about environmental ethics and human issues.).				
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	能覺知多元的自然科學與社會科學理論並具備研究能力 To have knowledge of natural and social science theories.	
B	具備自然資源與人類社會議題之調查分析、規劃與經營之能力 To be able to investigate, analyze, plan, and manage both natural resource and human social issues.	
C	具備將環境倫理與生態思想落實於永續性生活型態的能力 To implement sustainable lifestyles based on environmental ethics and ecological principles.	
D	能以整全式的觀點來解析環境問題，並具備發展系統性解決方案的能力 To resolve environmental issues and develop systematic solutions with a global perspective.	
E	具備系統分析、未來思考、溝通協調與團隊合作的能 The ability to analyze, plan, communicate, and coordinate with others (teamwork)	
F	具備終身學習、國際視野與外語溝通的能力 To instill the values of lifelong learning, an international perspective, and the ability to communicate in a foreign language.	

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

課程大綱 Course Outline

The program equips students with essential knowledge of climate change response strategies, helping them understand climate change impacts, conduct climate risk assessments, manage climate risks, and develop adaptive measures. It introduces the ISO 14064-1 standard, teaching students how to conduct greenhouse gas inventories by determining boundaries, defining scopes, collecting data, and calculating emissions. Additionally, students gain familiarity with ISO 14064-2, which focuses on calculating and reporting greenhouse gas reductions or removals at the project level. Finally, the program provides a comprehensive understanding of the ISO 14068 standard, covering carbon footprint calculation, reduction measures, and carbon offset methods.

資源需求評估（師資專長之聘任、儀器設備的配合．．．等）
Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods

Lecture
Group Discussion
Field Trip

Participation: 20% Seminar Presentation: 30%
Final Report: 30% Homework and/or Assignments: 20%

其他 Miscellaneous

1. ISO. (2018). ISO 14064-1:2018: Greenhouse gases-Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals. International Organization for Standardization. <https://www.iso.org/standard/66453.html>
2. ISO. (2018). ISO 14067:2018: Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification. International Organization for Standardization. <https://www.iso.org/standard/71206.html>
3. ISO. (2023). ISO 14068:2023: Climate change management — Transition to net zero

4. Part 1: Carbon neutrality International Organization for Standardization.
<https://www.iso.org/standard/43279.html>