

# 113 學年度淨零排放微學程課程規劃書

## 2024 Proposal of Micro Program on Net Zero Emissions

### 一、學程概述與目標：Description and Goal of Micro Program

2050 淨零排放已是順應國際潮流的國家重要政策及全民努力的目標，所有上市櫃公司均需要完成碳盤查及積極減碳，培養淨零排放的相關專業知識因而已成為現今各行業的必備技能。此微學程即是因應此需求而設置，讓同學掌握淨零排放概念與實務，除了永續發展、氣候變遷及淨零排放國內外趨勢，學程目前亦涵蓋了碳盤查、碳管理、能源科技、海洋再生能源、綠色科技等多個關鍵領域。課程內容從國際公約和政策解析、淨零碳規劃管理、循環經濟等前端概念的探討，再到各種能源與綠色科技介紹。除了理論知識的傳授，學程還注重實踐能力的培養，通過案例研討及創新項目設計，讓學生親身體驗促進國家永續發展的應用。這種理論與實踐相結合的教學方式，旨在培養具備全面視野、創新思維和實踐能力的淨零排放人才，為學生在相關領域的未來職場發展奠定堅實基礎，同時也為推動國家向淨零排放目標邁進做出卓越貢獻。完成微學程後，學生可參加經濟部 iPAS 淨零碳規劃管理師初級能力鑑定取得專業證照。

#### 學習目標：

- 理解永續發展、淨零排放、ESG 及循環經濟等的基本概念。以及瞭解國際公約、倡議及氣候變遷下的全球應對措施，也包括國內外政策法令標準的發展。
- 掌握溫室氣體減量的管制及碳盤查規劃管理方法。包括企業因應策略與實務操作。
- 學習綠色、能源及海洋再生能源等科技。了解不同能源形式、能源轉型的重要性，以及再生能源的發展潛力。
- 參與實例研討分析與實作，讓學生能整合專業知識應用於解決實際問題。
- 提升淨零相關基礎與專業技能，為未來在淨零碳規劃管理領域的職業生涯做好準備，在職場貢獻所學，引領社會及國家成功達成 2050 淨零排放目標。
- 為參加經濟部 iPAS 淨零碳規劃管理師初級能力鑑定做準備。

### **Micro Program on Net Zero Emissions**

Achieving net-zero emissions by 2050 has become a key national policy and a goal that aligns with international trends, requiring collective effort from the entire population. All publicly listed companies must complete carbon inventory assessments and actively reduce their carbon footprint. Consequently, acquiring professional knowledge related to net-zero emissions has become an essential skill across various industries. This micro-program was established to meet this demand, equipping students with the concepts and practical skills needed to achieve net-zero emissions. In addition to covering sustainable development, climate change, and domestic and international trends in net-zero emissions, the program includes key areas such as carbon inventory, carbon management, energy technology, marine renewable energy, and green technology. The curriculum spans a range of topics, from analyzing international agreements and policies to exploring net-zero carbon planning and management, circular economy concepts, and introductions to various energy sources and green technologies. Beyond theoretical knowledge, the program emphasizes practical skills through case studies and innovative project design, allowing students to gain first-hand experience in promoting national sustainable development. This approach, which integrates theory with practice, aims to develop professionals with a comprehensive perspective, innovative thinking, and practical abilities in the field of net-zero emissions. It lays a solid foundation for students' future careers in related fields while contributing significantly to the nation's progress toward net-zero emissions. Upon completing the micro-program, students can take the Ministry of Economic Affairs iPAS Junior Certification for Net-Zero Carbon Planning and Management to obtain a professional credential.

### **Learning Objectives:**

- Understand the basic concepts of sustainable development, net-zero emissions, ESG (Environmental, Social, and Governance), and the circular economy. This includes knowledge of international agreements, initiatives, and global responses to climate change, as well as the development of domestic and international policies, regulations, and standards.
- Master the methods for controlling greenhouse gas reductions and planning and managing carbon inventories. This includes strategies and practical operations for businesses.
- Learn about green technologies, energy, and marine renewable energy. Understand the different forms of energy, the importance of energy transition, and the development potential of renewable energy.
- Participate in case studies and hands-on activities, enabling students to integrate

professional knowledge and apply it to solving real-world problems.

- Enhance foundational and professional skills related to net-zero emissions, preparing for future careers in net-zero carbon planning and management, contributing to the workplace, and leading society and the nation toward successfully achieving the 2050 net-zero emissions goal.
- Prepare for the Ministry of Economic Affairs iPAS Junior Certification for Net-Zero Carbon Planning and Management.

## 二、 學程科目表 Curriculum of Micro Program

淨零排放微學程 Micro Program on Net Zero Emissions <input type="checkbox"/> 探索型 Exploratory <input checked="" type="checkbox"/> 精進型 Advanced <input type="checkbox"/> 實作型 Practice							
類別 Category	科目名稱 Courses	學分 Credits		預計開課 學年 Year	開課系所 Dept.	系所共授 課程 (勾選) involving Several Dept.	備註 Remarks
		上學期 Fall	下學期 Spring				
	永續趨勢實務 Practice of Sustainability Trends	2	2	113-115	社永中心		【基礎】 開課學期： 113-2、114-1 114-2、115-1
	氣候變遷與永續發展 Climate Change and Sustainable Development		2	113 114	人學中心		【基礎】
	綠色科技與永續發展探索 Exploring the Green Technology in Sustainable Development		2	113 114	社永中心		【進階】
	能源科技 Energy Technology	3		114 115	機械系		【進階】
	海洋再生能源 Marine Renewable Energy	3		114 115	土木系		【進階】
	循環經濟與實務 Circular Economy and Practices		2	113 114	社永中心		【進階】
	淨零碳規劃管理與 碳盤查程序 Net Zero Management and Greenhouse Gas Inventory Process		3	113 114	社永中心		超修可列進階學分。
總整課程 Capstone Course	淨零排放與實務 Net Zero Emissions and Practices	2		114 114	社永中心		超修可列進階學分。
選讀說明 Description	本學程需涵蓋至少 8 學分，含總整課程 2 學分、基礎課程 2 學分及進階課程 4 學分。 若欲報考經濟部產業人才鑑定 (iPAS) 淨零碳規劃管理師-初級能力鑑定考試，建議修習「淨零碳規劃管理與碳盤查程序概論」課程。						
完修總學分 Credit Requirements		8					

※ 本表於 113 學年度起適用。

The curriculum is applicable from the academic year 2024.