

EMPOWERING TOMORROW'S SUSTAINABILITY: MASTERING CARBON NEUTRALITY WITH SUSTAINABLE TECHNOLOGIES

支持未来可持续发展：掌握可持续技术实现碳中和



MESSAGE FROM PROGRAMME LEADER

课程负责人的话

Welcome to our Master of Science programme in Sustainable Technologies for Carbon Neutrality! We are thrilled to have you join us on this transformative journey toward a greener and more sustainable future. This programme has been meticulously designed to equip you with the knowledge, skills, and insights needed to tackle the pressing global challenge of climate change.

Throughout your time with us, you will have the unique opportunity to engage with cutting-edge research, interact with renowned experts in the field, and explore innovative solutions that address carbon emissions and promote environmental stewardship. Our curriculum emphasizes a multidisciplinary approach, empowering you to grasp the complexities of sustainable technologies from various perspectives.

As you embark on this intellectual adventure, we encourage you to embrace curiosity, creativity, and a deep commitment to making a positive impact on our planet. Together, we will shape a sustainable tomorrow for generations to come. Welcome, and let's take bold steps towards carbon neutrality!



Programme Leader
课程负责人

Prof. Lawrence Yoon Suk Lee
Associate Professor
PhD, AMRSC, ACS

欢迎加入我们的碳中和可持续科技理学硕士学位课程！我们很高兴您能够与我们一起踏上这段通往更绿色、更可持续未来的变革之旅。该课程经过精心设计，旨在为您提供应对气候变化这一全球紧迫挑战所需的知识、技能和洞察力。

在您与我们一起学习的过程中，您将有独特的机会掌握碳控制的前沿科学和技术，与该领域的知名专家互动，并探索有效应对碳排放和促进环境管理的创新解决方案。我们的课程强调跨学科培训，使您能够从不同的角度掌握可持续技术的复杂性。

在您踏上这段智力冒险之旅时，我们鼓励您保持好奇心、创造力，并对为我们的地球产生积极影响怀有坚定的承诺。让我们共同为子孙后代塑造一个可持续的明天。欢迎您，让我们一起迈出通往碳中和的大胆步伐！

CONTACT US 联系我们

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Website 网址: <https://www.polyu.edu.hk/abct/>

Early round application by 19 November 2024

Main round application by 30 April 2025

Application will be considered immediately and on rolling basis until all places are filled.

Early applications are strongly encouraged.

首轮申请截止日期为2024年11月19日

主轮申请截止日期为2025年4月30日

申请将立即考虑，直到所有名额都被填满为止。

强烈鼓励尽早申请。

PROGRAMME DETAIL 课程详情



<https://polyu.hk/dVvEF>

APPLY NOW 现正申请



<https://polyu.hk/dWQec>



World-class Rankings of PolyU 理大世界排名



Quacquarelli Symonds (QS)
World University Rankings
QS世界大学排名
57th QS World University Rankings 2025
QS世界大学排名 2025



Times Higher Education (THE)
World University Rankings
泰晤士高等教育世界大学排名
84th THE World University Rankings 2025
THE世界大学排名 2025
19th THE Asia University Rankings 2024
THE亚洲大学排名 2024
7th THE Young University Rankings 2024
THE年轻大学排名 2024



Eminent Subject Rankings
QS World University Rankings
by Subject 2024:
杰出学科排名
QS世界大学学科排名2024
46th Environmental Sciences
环境科学



US News and World Report's
Best Global Universities Rankings
67th US News and World Report's Best
Global Universities Rankings 2024
美国新闻及世界日报 -
全球最佳大学排名 2024



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大学



DEPARTMENT OF
APPLIED BIOLOGY AND
CHEMICAL TECHNOLOGY
應用生物及化學科技學系

MASTER OF SCIENCE IN SUSTAINABLE TECHNOLOGY FOR CARBON NEUTRALITY 碳中和可持续科技理学硕士

Programme Code
课程编号: 12060



Why Us 为何要选择我们

As the first masters-level programme in Hong Kong specialising in carbon management and mitigation science and technology, this programme aims to provide graduates with systematic hands-on training to tackle challenging and dynamic global issues related to carbon auditing, green financing, carbon management and sustainable/renewable energy.

作为香港首个专攻碳管理和碳减排科技的硕士课程，该课程旨在为学生提供系统的实践培训，以解决与碳审计、绿色金融、碳管理、可持续/再生能源相关的具有挑战性的动态全球问题。

Prospects 前景

Graduates of the programme have excellent job prospects, with potential careers in the areas of corporate sustainability management, ESG consultancy and green finance in the finance sector. They may hold titles such as compliance officer, sustainability manager/executive, and sustainability consultant/analyst/specialist.

该课程的毕业生拥有良好的就业形势，在金融行业的企业可持续发展管理、ESG咨询和绿色金融等领域均具有潜在的职业发展前景。他们可能胜任合规主任、可持续发展经理/高管和可持续发展顾问/分析师/专家等岗位。

General Information

Tuition Fees 学费: HK\$6,660 per credit 每学分

Programme Duration 修读年期: Full-time 全日制: 1 year Part-time 兼读制: 2 years

Mode of Study 学习模式: Mixed Mode 混合模式 (Full-time 全日制; Part-time 兼读制)

Fund Type 资助类型: Self-Financed 自费

Total Credit Requirement for Graduation 毕业总学分要求: 31 credits 学分

Class schedule 课程安排: Normally scheduled on weekday evenings and Saturdays 通常安排在工作日晚上和周六

We AIM TO PREPARE GRADUATES TO MEET THE INCREASING LOCAL AND NATIONAL DEMAND FOR QUALIFIED PROFESSIONALS IN THE FIELD OF CARBON NEUTRALITY

培养毕业生成为碳中和领域专业人员，以满足当地和国家日益增长的需求

We equip students with up-to-date scientific and technological knowledge to address current and emerging environmental issues and concerns. We also develop students' ability to formulate and implement the latest scientific and management concepts and tools and thus address corporations' need to achieve their zero-emissions goals. It provides rigorous cross-disciplinary training that enables students to create innovative and multi-faceted solutions to problems involving carbon neutrality, energy transition and low-carbon energy conversion systems.

我们为学生提供最新的科学技术知识，以解决当前和新出现的环境问题。我们还培养学生制定和实施最新科学、管理概念和工具的能力，从而满足企业实现零排放目标的需求。该课程提供严格的跨学科培训，使学生能够针对涉及碳中和、能源转型和低碳能源转换系统的问题，创建具有创新性的、全面的解决方案。



SCHOLARSHIP 奖学金

Two one-off entry scholarships of HK\$10,000 each will be granted to applicants who are admitted during the Early Round Application period (by 19 November 2024) and obtained a Bachelor's degree with Second Class (Division I) Honours or above (or equivalent). Another two one-off entry scholarships of HK\$10,000 each will be granted to applicants with excellent academic achievements. The recipients are not allowed to concurrently hold more than one Entry Scholarship awarded by the Department.

PolyU reserves the right to change or withdraw the scholarship at any time. In case of any dispute / disagreement, PolyU's decision is final.

于早期申请期间（截至2024年11月19日）获录取并取得二等（第一级）荣誉学士学位或以上（或同等学历）的申请人，可获两项一次性入学奖学金，每项金额为港币10,000元。另有两项一次性入学奖学金，每项各港币10,000元，奖励学术成绩优异的申请者。获奖者不得同时持有超过一项由院系授予的入学奖学金。

理大保留随时更改或撤销奖学金的权利。如有任何争议/分歧，理大保留最终决定权。

WHY IS CARBON NEUTRALITY IMPORTANT? 为什么碳中和很重要?

Climate change is creating many life-threatening disruptions, including extreme weather, rising sea levels, worsened droughts, and heightened risk of forest fire. The August 2021 report from the UN's climate science body, the Intergovernmental Panel on Climate Change (IPCC), confirms that the growing physical risks from climate change are caused by human action, and the outlook is alarming. In response to this mounting scientific evidence and growing public concern, many governments around the world have announced target dates for achieving net-zero greenhouse gas (GHG) emissions. The demand for talents with literacy in science and technology should be growing as more public and private enterprises are joining forces to meet the net-zero target.

气候变化正在造成许多危及生命的破坏，包括极端天气、海平面上升、干旱加剧以及森林火灾风险增加。联合国气候科学机构政府间气候变化专门委员会 (IPCC) 2021年8月的报告证实，气候变化带来的日益严重的自然风险是由人类行为造成的，前景令人担忧。为了应对不断增加的科学证据和日益增长的公众关注，世界各地许多政府都宣布了实现温室气体 (GHG) 净零排放的目标日期。越来越多的公私企业以联手实现零排放为目标，对具有科技素养的人才的需求将会不断增长。

RECOGNITION 认可

In this programme, the syllabi of subjects related to carbon auditing, the carbon footprint, GHG inventory, GHG reporting, and other topics are based primarily on the latest and most widely accepted ISO standards. Our programme has been included in the list of post-secondary courses (Climate Change) on the Carbon Neutrality and Sustainable Development Website of the Environment and Ecology Bureau.

在该课程中，与碳审计、碳足迹、温室气体清单、温室气体报告和其他主题相关的科目大纲主要基于最新和最认可的ISO标准。该课程已被碳中和和可持续发展网站列为专上教育课程（气候变化）。

OUR GRADUATES WOULD RECEIVE THREE PROFESSIONAL CERTIFICATES FOR GHG MANAGEMENT 毕业生将获得三份温室气体管理专业证书

SGS Certificate of ISO 14064 Quantitation and Reporting of Greenhouse Gas Emissions and Removals at Organization Level implementation Training Course
SGS证书 - ISO 14064组织层级温室气体排放与移除之量化及报告培训课程

SGS Certificate of ISO 14067 Quantitation and Reporting of Carbon Footprint of Products (Goods & Services) Training Course
SGS证书 - ISO 14067产品(商品和服务)碳足迹量化和报告培训课程

SGS Certificate of Principles of and Methodologies for Carbon Neutrality
SGS证书 - 碳中和的原则和方法



Graduates of this MSc programme meet the academic and working experience, training and examination requirements for registration as Registered GHG Carbon auditors of the Hong Kong Institution of Certified Auditors (HKICA).

该理学硕士课程的毕业生符合香港专业审核师学会(HKICA)注册温室气体碳审计师的学术和工作经历、培训和考试要求。

OUR CURRICULUM 课程简介

We provide one-year full-time and two-year part-time study mode

Students are required to complete a total of 31 credits of subjects, made up of 22 credits of core courses and 9 credits of elective courses. The degree of Master of Science in Sustainable Technology for Carbon Neutrality shall be rewarded to students who have satisfactorily completed all the course requirements.

我们提供一年全日制和两年兼读制学习模式

学生必须完成总共31学分的课程，其中22学分是核心课程，9学分是选修课程。圆满完成所有课程要求的学生将获得碳中和可持续技术理学硕士学位。

ADMISSION REQUIREMENTS 入学要求

▶ A Bachelor's degree in Science, Engineering or related disciplines or qualification of equivalent standard from a recognised University.

拥有科学、工程或相关学科的学士学位或来自认可大学的同等标准的资格。

▶ Preference will be given to applicants having at least one year of relevant working experience.

具有至少一年相关工作经验的申请将受到优先考虑。

▶ If the applicant is not a native speaker of English, and his/her Bachelor's degree or equivalent qualification is awarded by institutions where the medium of instruction is not English, he/she is expected to fulfil the University's minimum English language requirement for admission purpose.

如果申请人的母语不是英语，并且他/她的学士学位或同等资格是由教学语言不是英语的机构授予的，则他/她应满足大学入学时的最低英语语言要求。



LEARN MORE ABOUT OUR COURSES! 了解更多关于我们的课程!

CORE COURSES 核心科目

Students will build up a solid foundation and overall picture of sustainable technologies for carbon neutrality

学生将打下坚实的基础和全面的了解碳中和的可持续技术

- 1 Sustainable Finance* 可持续金融*
- 2 Ecological Approaches for Carbon Management 碳管理的生态方法
- 3 Materials Science for Carbon Neutrality Applications 碳中和应用的材料科学
- 4 Renewable Energies and Technologies I: Hydrogen and Biofuels 可再生能源与技术(一): 氢与生物燃料
- 5 Renewable Energies and Technologies II: Energy Conversion and Storage 可再生能源与技术(二): 能源转换与储存
- 6 Quality Assurance for Greenhouse Gases (GHGs): Statements and Management Principles for Methodologies on Climate Actions* 温室气体 (GHG) 质量保证: 气候行动方法论的声明和管理原则*
- 7 Quantitation and Reporting of Greenhouse Gases (GHGs) and Carbon Footprint (CFP)* 温室气体 (GHG) 和碳足迹 (CFP) 的定量和报告*
- 8 Academic Integrity and Ethics in Science 学术道德与诚信

ELECTIVE COURSES 选修科目

Students must complete at least 9 credits of 2 or 3 elective subjects
学生必须完成至少9个学分来自2或3个选修科目

- List 1 列表 1
- 9 Project 项目
 - 10 Research Project 研究项目
- List 2 列表 2
- 11 Green Chemistry for Sustainable Products Development 可持续产品开发的绿色化学
 - 12 Expert Seminars / Special Topics in Sustainable Science and Technology 可持续科技专家研讨会/专题
 - 13 Sustainable Chemistry for Circular Economy 循环经济中的绿色化学
 - 14 Stochastic Models for Carbon Pricing and Trading* 碳定价和交易的随机模型*
 - 15 Energy Efficient Lighting and Control 节能照明与控制
 - 16 Energy Efficient Buildings 节能建筑
 - 17 Electric Energy Storage and New Energy Sources for Electric Vehicles 电动汽车中的电能存储与新能源

*The MSc programme has been listed in the Hong Kong Monetary Authority (HKMA) Green and Sustainable Finance (GSF) Training Information Repository. This repository contains information about training on green and sustainable related subjects. HKMA identified and compiled the information based on industry practice. By incorporating these finance-related subjects, the MSc programme meets the needs of the industry for talents of science/engineering background with the competencies and skillset in green and sustainable finance.

*理学硕士课程已列入香港金融管理局 (HKMA) 绿色与可持续金融 (GSF) 培训信息库。该信息库包含有关绿色和可持续相关主题培训的信息。金管局根据行业惯例确定并编制了这些信息。通过整合这些与金融相关的学科，理学硕士项目满足了行业对理工科背景人才的需求，绿色和可持续金融方面的能力和技能。