School of Energy & Environment

First in Hong Kong

With cutting-edge research and professional education in energy and environment

Energy & Environment – The Grand Challenge

SEE Website

CityU
香港城市大學
City University of Hong Kong

Introduction

The School of Energy and Environment (SEE) – the first in Hong Kong - was founded in July 2009 with the mission to perform cutting-edge research and provide professional education in energy- and environment-related issues. Never before have such issues become so important worldwide, and they are in fact on the top agenda of every region/country. The critical question is how enough energy can be produced to sustain economic growth while the effects on the environment in the production and use of energy can be minimised. Conversely, the carbon footprint in mitigating environmental problems must also be considered. The School is therefore designed to tackle this interactive relationship between energy and environment through the development of new scientific understanding and new technologies as well as the training of new professionals with broad knowledge in the areas of energy and environment.

Mission

- Advancing research in targeted themes of benefit to societal needs in energy, environment, and sustainability;
- Preparing leaders and practitioners to address environmental and energy needs in a rapidly decarbonising world and build a sustainable future;
- Maintaining a collaborative and supportive atmosphere for students, faculty, alumni and other stakeholders in advancing our interdisciplinary research and educational objectives.

Accreditation

- Bachelor of Engineering in Energy Science and Engineering and Bachelor of Engineering in Environmental Science and Engineering have been granted accreditation by the Hong Kong Institution of Engineers (HKIE).
- Master of Science in Energy and Environment is accredited by the Institution of Gas Engineers and Managers (IGEM) and Chartered Institution of Water and Environmental Management (CIWEM). Graduates who have successfully completed the degree can partially fulfill the academic requirements* for registration as Chartered Engineer (CEng), UK.

** with an accredited BEng/BSc Degree from any of Washington Accord's 19 Signatories*

We have a large interdisciplinary faculty with research expertise in atmospheric and climate science, biological science, chemistry, chemical engineering, energy economics, environmental engineering, environmental policy, mechanical engineering and materials science. Since its inception, the faculty has established several research groups and two research centres devoted to the development of fundamental and application-oriented research with a focus on the Asian setting. On the educational front, we are offering two undergraduate majors, three undergraduate minors, a taught postgraduate programme as well as Ph.D. places for well-qualified students.

Academic Programmes

The School of Energy and Environment offers several academic programmes and courses to both undergraduate and postgraduate students, which provide them with the knowledge and skills in the areas of energy and environment, with special reference to the Asian setting.

Major Programmes
- Major in Energy Science and Engineering
- Major in Environmental Science and Engineering

Minor Programmes
- Minor in Atmospheric and Climate Science
- Minor in Energy Technology
- Minor in Sustainability

Gateway Education Courses
- Climate Change and Extreme Weather
- Energy: Today and Tomorrow
- Food Security and Sustainability
- Sustainable Energy and Environmental Engineering
- Urban Green City: Pollution and Solution
- Urban Sustainability in Hong Kong

Research Degree Programme
- Master of Philosophy (M.Phil.)
- Doctor of Philosophy (Ph.D.)

Taught Postgraduate Programme
- Master of Science in Energy and Environment

Student Exchange

The School of Energy and Environment has established exchange partnerships with institutions in various countries/regions.

Destination		Institution
Asia	South Korea	Ewha Womans University Hanyang University
	Taiwan	University System of Taiwan
Europe	France	INSA Lyon
	Germany	Leibniz University of Hannover Ludwig-Maximilians-Universität Müchen University of Bremen
	Sweden	Chalmers University of Technology
	UK	University of Exeter

Research and Development

Our established research expertise in energy- & environment- related subjects are grouped in research teams to engage in and develop cutting-edge research. Current research areas include:

Atmospheric and climate science
- aerosol and air pollution
- climate diagnostics
- climate modeling
- tropical cyclones
- urban and mesoscale meteorology

Bioscience and its applications
- environmental chemistry and toxicology
- environmental microbiology and biotechnology
- waste and biomass valorisation

Energy conversion, generation and storage
- battery and energy storage technologies
- fuel cells
- hydrogen technology
- nanotechnology applications in clean energy
- reaction processes in energy-related systems

Energy and built environment
- advanced electric motors
- building performance evaluation
- energy efficiency
- health and comfort in buildings
- indoor air pollution
- low carbon buildings
- smart grid, smart cities

Policy and economics
- climate change and sustainability
- energy security
- energy transition modeling
- water governance

Renewable energy
- hydrogen energy
- marine energy
- photovoltaics
- solar photocatalysis

Sustainable water resources
- desalination
- rainwater harvesting
- urban water and watershed management

In line with the mission of CityU, collaborative research activities with industries are being pursued in the joint development of new technologies, products and services. In addition, knowledge transfer activities as well as consultancies are encouraged.

Contact

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