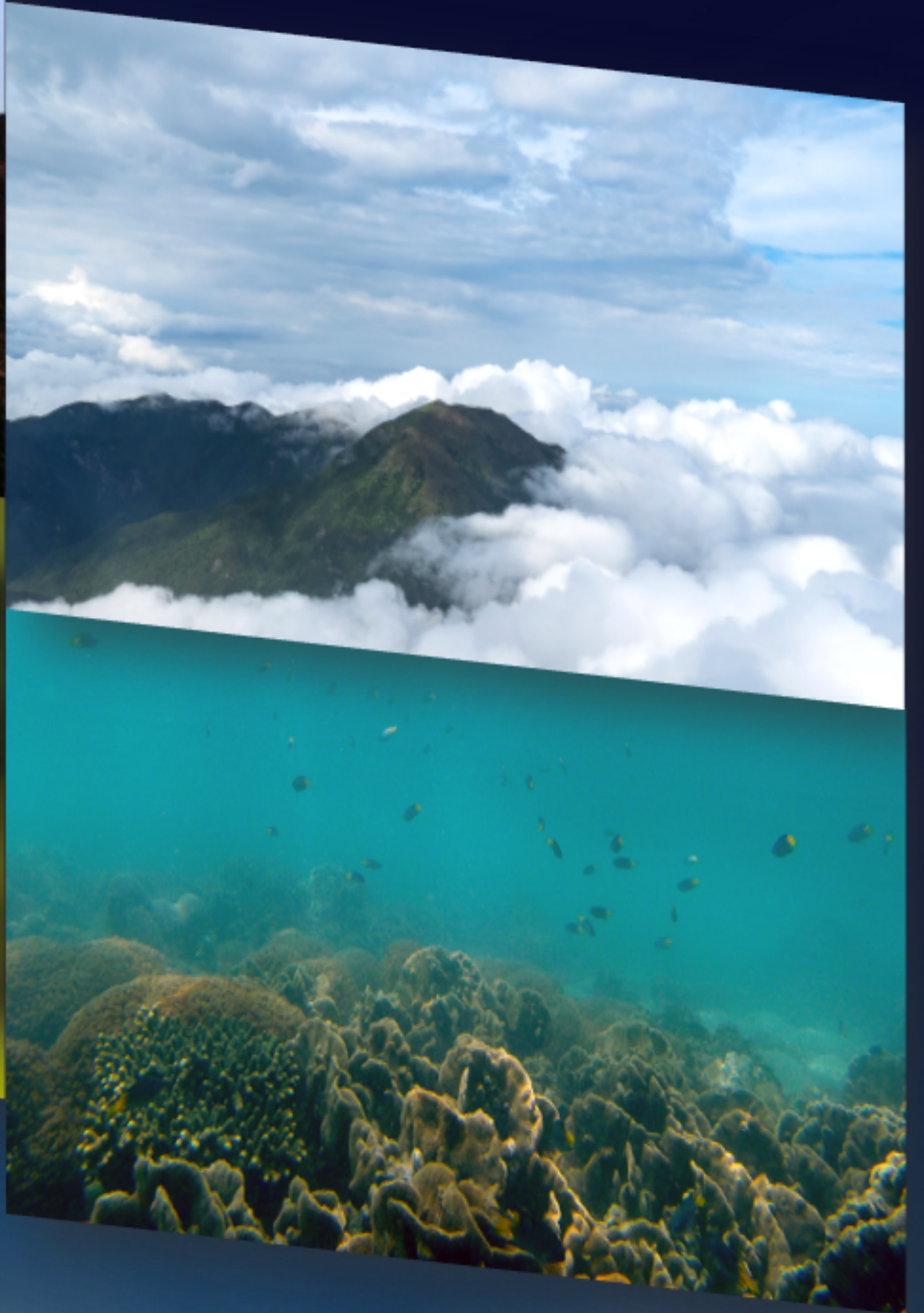




香港中文大學理學院

FACULTY OF SCIENCE

THE CHINESE UNIVERSITY OF HONG KONG



EARTH AND ENVIRONMENTAL SCIENCES PROGRAMME



地球與環境科學課程

Introduction

Earth and Environmental Sciences Programme (EESC) is the new integrated programme resulting from a merger between Earth System Science (ESSC) and Environmental Science (ENSC). Global climate change, environmental pollution, natural hazards, biodiversity loss, and the current energy and food crisis are all critical issues of public concern. The new programme will equip students with the latest knowledge and technical skills to observe, understand, analyse, and model the systems and processes that drive natural and anthropogenic global environmental changes.

Admission

JS4648

Earth and Environmental
Sciences Programme

JS4601

Science Broad-based
Admission Scheme

DSE Subjects	Minimum Scores
Elective Subject 1	Level 4
English, Chinese, Maths, Elective Subject 2	Level 3
Liberal Studies	Level 2

Students can have an early start
in taking EESC courses!

EESC Students

Stream Declaration

Students can select study schemes that enable them to pursue specializations in



Major Declaration

Science students can declare EESC as Major at any of the following three time points, provided that they meet the stated requirements

Time	Requirements
Beginning of Year 1 (Entry)	Level 5 or above in Biology or Chemistry or Physics or Combined Science or Mathematics (Module 1) or Mathematics (Module 2)
End of Year 1	Grade C+ or above in CHEM1070 or CHEM1072 or LSCI1002 or LSCI1012 or MATH1010 or MATH1018 or MATH1520 or PHYS1001 or PHYS1002 or PHYS1111 or PHYS1113 or STAT1011 or STAT1012
End of Year 2	1. Any ONE course from BIOL2210 / EESC2270 / EESC2515 / EESC2010 / EESC2020 / EESC2800, and 2. Any THREE courses from CHEM1070 / CHEM1072 / LSCI1002 / LSCI1012 / MATH1010 / MATH1018 / MATH1520 / PHYS1001 / PHYS1002 / PHYS1111 / PHYS1113 / STAT1011 / STAT1012

In this programme, particular emphasis is placed on *multidisciplinary* and *combined theoretical-observational* approaches to understanding the problems stated above and formulating potential solutions. Students will acquire a strong comprehensive foundation in the dynamics of the Earth and its environment, with options to specialize in the following streams to suit their background, interests and career objectives: (i) **Atmospheric Science**, (ii) **Geophysics**, and (iii) **Environmental Science and Technology**. Students will be given opportunities to gain valuable quantitative and analytical skills, and build their capabilities via laboratory work, field studies, numerical modeling and programming experience, seminars, workshops and research projects. Further enhancing these are exchange opportunities at overseas universities as well as internships in the Hong Kong Observatory and other government agencies, geotechnical firms, environmental organizations, and the educational sector.

Highlights of EESC Courses

❖ Atmospheric Science Stream ❖

Atmospheric science is the study of the dynamics and chemistry of the atmosphere, hydrosphere and biosphere that surround the Earth. This encompasses the interactions between various parts of the atmosphere as well as interactions with the oceans and freshwater systems, the biosphere and human activities.

Land-Atmosphere Interactions and Boundary Layer Meteorology

Tropical Meteorology

Cloud Dynamics

Atmospheric Chemistry

Ecosystem and Climate

Oceanography

Air Pollution and Engineering

Atmospheric Dynamics

Physics and Chemistry of Aerosol



❖ Geophysics Stream ❖

Geophysics focuses on studying the Earth using gravity, electromagnetic and seismic methods. Students will acquire solid physical and mathematical foundations and quantitative understanding of the solid Earth, including: surface and internal structures, geotechnical engineering, geohazards and mitigation, exploration of mineral and natural resources.

Seismology

Petrology

Rock Mechanics

Volcanology

Geomorphology

Geoscience Field Trip

Marine Geophysics & Geology

Hydrogeology

Physics of the Earth

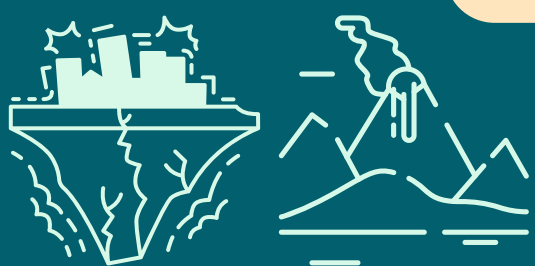
Soil Mechanics

Applied Geophysics

Structural Geology

Engineering Geology

Solid and Fluid Mechanics



❖ Environmental Science and Technology Stream ❖

Environmental science is an integrated science using the basic knowledge and skills of applied biochemistry, biology and chemistry to assess and resolve environmental problems. Students will receive multi-disciplinary training in ecology, environmental chemistry, instrumentation, pollution control, environmental management, biodiversity, conservation biology, toxicology and health, environmental impact assessment, and policy research.

Environmental & Biochemical Toxicology

Environmental Chemistry

Biogeochemistry

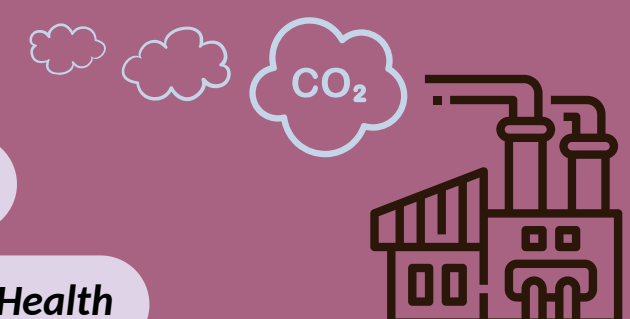
Chemical Treatment Processes

Environmental Protection & Pollution Control

Environmental Impact Assessment

Environmental Instrumentation Techniques

Environmental Health



Starting a New Era!

Career Prospects



Upon graduation, students are well prepared for jobs in the government, NGOs, and industries, including but not limited to

- geotechnical survey and engineering
- meteorological and marine services
- climate, energy and environmental consulting and management
- environmental protection and conservation
- pursue further studies
- educational sector.

FAQs

Q1. What are the differences between Earth and Environmental Sciences (EESC), Earth System Science Programme (ESSC) and Environmental Science (ENSC)?

EESC is the new integrated programme resulting from a merger between ESSC and ENSC. Each of ESSC and ENSC has had unique strengths and scopes catering to students of different needs and backgrounds, and the new EESC programme aims to combine such strengths such that students can be the most prepared to address the pressing environmental and resource problems of the 21st century. Starting from the academic year of 2022-23, new students entering CUHK can choose EESC as their major, but not ESSC or ENSC.

Q2. What is the advantage of being admitted through EESC (JS4648)?

Students entering via the separate JUPAS will gain early exposure to the EESC community, where they can enjoy not only more specific advice from teaching staff and peer mentors, but also early opportunities to EESC-focused activities.


Q3. Will the existing internships and learning activities such as field trips in ENSC or ESSC be kept in the new programme EESC?

Yes, absolutely. By integrating existing opportunities into a combined programme, students across the board can enjoy an even wider range of learning activities.



Social Media



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 @cuhk_eesc



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