

Welcome to the major of
Environmental Science
6901 Bachelor of Science



What is Environmental Science?

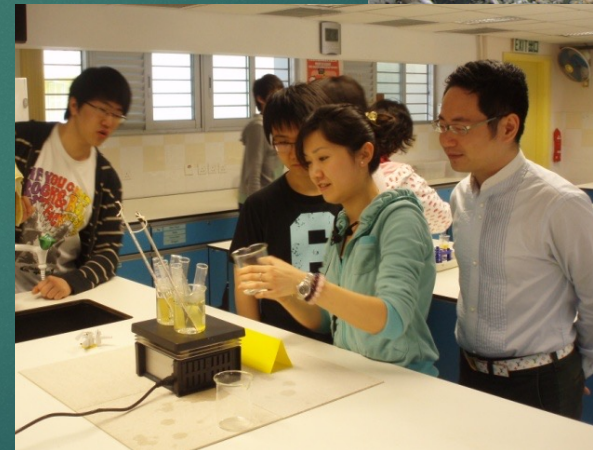
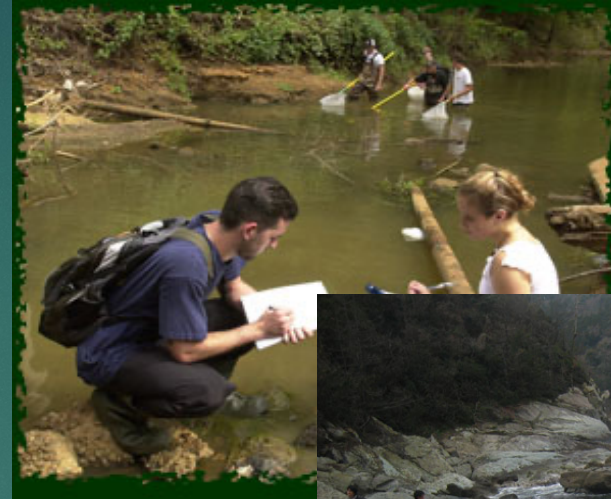
An interdisciplinary approach to studying and finding solutions for environmental problems relevant to everyday life.

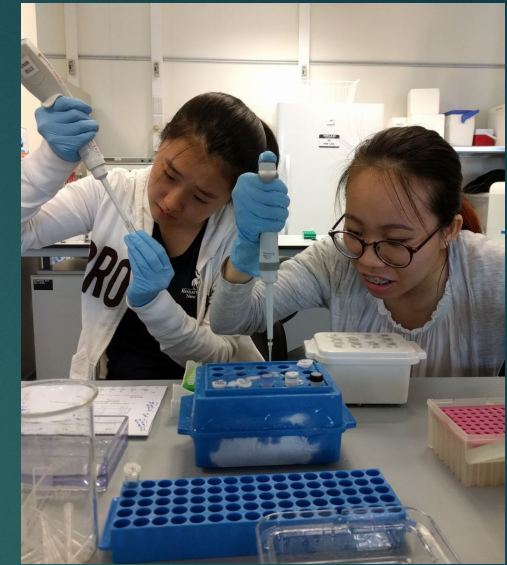
Integrates physical, biological and information sciences to better understand the relationship between humans and the environment.



Environmental Science @ HKU

- ▶ A broad-based education
 - ▶ Emphasis on natural sciences
 - ▶ Practical field and analytical skills
 - ▶ Communication
- ▶ Critical thinking skills
- ▶ Multiple perspectives
- ▶ Ability to solve novel problems
- ▶ Develop leadership skills





Experiential learning = learning by doing!

Curriculum: Introductory level courses (48 credits)

Ecology

Earth Sciences

Chemistry



Field and Lab
Methods

Data Analysis

Strong background in basic sciences – to understand the basic processes that sustain life in the earths systems.

Curriculum: advanced level courses (42 credits)

Core Course: ENVS3004 Environment, society, and economics

Plus at least 36 credits of other electives:



Climate Change



Urban Ecology



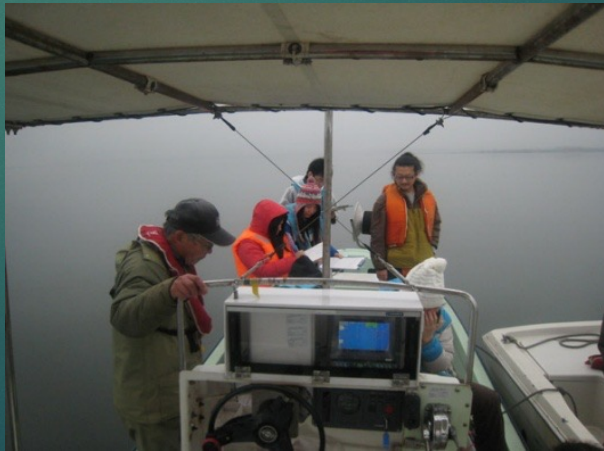
Pollution

Flexibility to choose the courses that match your interests

Opportunities for local and overseas field trips

▶ Overseas Field Courses

- ▶ ENVS3022 Environmental Science Field Course (Japan)
- ▶ ENVS3028 Coastal Sustainability (USA, Malaysia)
- ▶ ENVS3401 Understanding tropical ecosystems in a changing world (Borneo)
- ▶ EASC3419 Earth System Science Field Studies (USA)



Capstone Requirement – Final year (6 credits)



Environmental Science Project



Directed Studies in Environmental Science



Environmental Science Internship



Our curriculum is designed to meet the University Educational Aims

- ▶ UEA1: Pursuit of academic/professional excellence, critical intellectual inquiry, and life-long learning
- ▶ UEA2: Tackling novel situations and ill-defined problems
- ▶ UEA3: Critical self-reflection, greater understanding of others, and upholding personal and professional ethics
- ▶ UEA4: Intercultural communication and global citizenship
- ▶ UEA5: Communication and collaboration
- ▶ UEA6: Leadership and advocacy for the improvement of the human condition

Accredited Major

▶ **Benefits to students:**

- ▶ Reduced time to professional accreditation
- ▶ Student membership
- ▶ Mentorship opportunities
- ▶ Networking with environmental professionals
- ▶ Conferences, workshops and other events to develop skills and knowledge



HKIQEP
香港環專會

Our major is accredited by the Hong Kong Institute of Qualified Environmental Professionals
(www.hkiqep.org)

Accredited pathway: required courses*

Course	Course Title
ENVS1401	Introduction to Environmental Science
ENVS2001	Methods in Environmental Science
ENVS2002	Environmental Data Analysis
ENVS3004	Environment, Society and Economics
ENVS3010	Sustainable Energy
ENVS3019	Urban Ecology
ENVS3042	Pollution
ENVS3402	Social Science Methods
EASC3405	Remote Sensing
BIOL4302	Ecological Impact Assessment
GEOG2127	Environmental Management

*Students must take all of these courses in order to receive all the benefits of accreditation.

Major Coordinators

Dr Christelle Not

Dept of Earth Sciences



Dr Jin Wu

School of Biological Sciences



ENVS Teachers come from multiple departments, providing interdisciplinary expertise and diverse experience



Dr Ashton
Biology



Dr Baker
Biology



Dr Bonebrake
Biology



Dr Chu
Chemistry



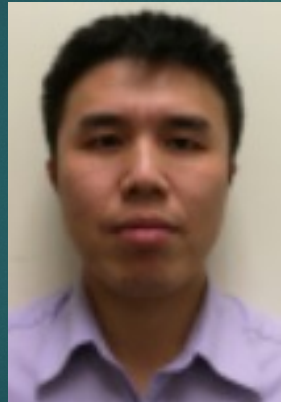
Prof. Djurisc
Physics



Dr Khan
Earth Science



Prof Liu
Earth Science



Dr Luo
Earth Science



Dr Michalski
Earth Science



Dr Mumby
Biology/Social
Science



Dr Seymour
Biology



Dr Vengatesen
Biology



Dr Yasuhara
Biology

Undergraduate Research

The environmental science major provides many opportunities to gain hands on research experience in environmental science, from Year 1. Our teachers have experience across a wide range of related disciplines. Many of our student projects have been published in scientific journals and have had impacts on the local environment

Students' Corner

Undergraduate Environmental Science Research Published in Peer-reviewed Journal

An ambitious group of undergraduate students in the Environmental Field and Lab course examined the water quality of Hong Kong's swimming beaches with international standards established by the WHO, and their findings were recently published in a peer-reviewed journal, *Marine Pollution Bulletin*.

The students were trained to utilise essential analytical techniques applied to real-world environmental problems during the course. They learned that Hong Kong's antiquated system of measuring *E. coli* is underestimating health risks to swimmers. Realising the problem, they continued their research for 1 year further on their own time after the course. They investigated whether there was a difference in the outcomes for Hong Kong water quality assessment between using empirical enterococci measurements and using the *E. coli* data from the Hong Kong Environmental Protection Department's monitoring programme. Their data were collected, tested, analysed and the results were recently published in the aforementioned journal.

Their supervisor, Dr David Baker of School of Biological Sciences, The Swire Institute of Marine Science and Department of Earth Sciences, is delighted about their achievements. "I am happy that the University is moving towards a system where teaching and research are not mutually exclusive. To me, undergraduate publication is the ultimate learning outcome." Dr Baker said.

The Paper
Pui Kwan Cheung, Ka Lai Yuen, Ping Fai Li, Wai Hing Lau, Chung Man Chiu, Suet Wai Yuen, David M Baker.
"To swim or not to swim? A disagreement between microbial indicators on beach water quality assessment in Hong Kong."
in *Mar Poll Bull* 2015.
DOI:10.1016/j.marpolbul.2015.11.029

Hear from our Students

Kylie Ka Lai YUEN
2015 BSc graduate (major in Environmental Science)
"Living in an urban city, we tend to forget that we are very much connected to nature and relying on its resources. Hopefully, the new findings can raise public awareness that human health goes hand in hand with environmental protection. From sample collection to experimental design to data analysis, our journey to publishing this article was not smooth though. We encountered unforeseen obstacles and setbacks along the way, but making continuous improvements by trial and error is what makes this a truly fruitful learning experience."

Pui Kwan CHEUNG
2014 BSc graduate (double major in Environmental Science and Geography)
2014 Exchange study at the University of Edinburgh, UK
2013 Founding member, the Society

Students collecting beach water sample.



Contents lists available at ScienceDirect

Behavioural Processes

journal homepage: www.elsevier.com/locate/behavproc



Low frequency dove coos vary across noise gradients in an urbanized environment

Fengyi Guo^{a,b}, Timothy C. Bonebrake^{a,b}, Caroline Dingle^{b,*}

^a School of Biological Sciences, University of Hong Kong, Hong Kong
^b Department of Earth Sciences, University of Hong Kong, Hong Kong



Environmental Research Letters

Impact of cutting meat intake on hidden greenhouse gas emissions in an import-reliant city

Y Y Yau¹, B Thibodeau^{1,2} and C Not^{1,2,3}



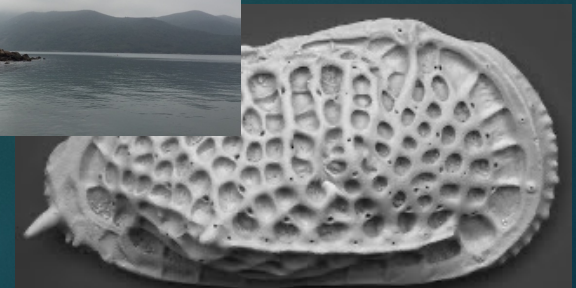
Marine Pollution Bulletin
Volume 149, December 2019, 110523

Evidence for non-selective ingestion of microplastic in demersal fish

Hing Sang Hamsun Chan^{a,b}, Caroline Dingle^c, Christelle Not^{a,b}

Research opportunities

- ▶ Plastic pollution and its impact on fauna
- ▶ Hong Kong marine biodiversity
- ▶ Adaptation of urban fauna to climate change
- ▶ Paleoclimate reconstruction: Understand the past to predict the future
- ▶ Sea-level changes and its impact on coastal cities



Jobs held by recent graduates (100% employment after 6 months):

- ▶ Government (EPD/AFCD)
- ▶ NGOs
- ▶ Private companies
- ▶ Academic Research
- ▶ Conservation & Sustainability
- ▶ Environmental Consultants



Additional Support

- Skills training sessions
- Advice and mentoring
- Open door policy
- **Student Peer Advisers**



▶ Society of Environmental Science

▶ envshku.wix.com/senvs

▶ “The Society of Environmental Science” (FB)



▶ HKUSES





We look forward to you joining us!