

The University of Hong Kong
Department of Earth Sciences

Continuing Professional Development (CPD) Courses from the MSc in Applied Geosciences

SEPTEMBER TO DECEMBER 2022

GEOS7010 Geology principles and practice (approximately 36 hours) Fees \$13,200

Taught by Dr Samuel Ng and Dr Jean Wong

(Wednesdays 7 September to 30 November 2022, 7:00pm - 9:45pm, 12 meetings)

A review of fundamental concepts in geosciences, including earth and geological processes, surface processes, minerals and rocks, geological structures and geological map interpretation. The course also introduces the rocks and geological formations of Hong Kong. **This course is the pre-requisite for course GEOS7033 Geology of Hong Kong to be offered in January to May 2023.**

GEOS7011 Advanced geology of Hong Kong (approximately 45 hours) Fees \$13,200

Taught by Dr Jason Ali and Dr Denise Tang, Hong Kong Geological Survey

(7 September to 30 November 2022, 7:00pm - 9:45pm, 8 Wednesdays meetings + 3 Saturdays fieldtrips)

This course offers geologists the opportunity to gain in-depth knowledge of the geology of Hong Kong. Topics include volcanic and granitic rocks, sedimentary and metamorphic rocks, weathering processes, surficial geology, structural geology, unresolved problems/new insights into the geology of Hong Kong; petrographic study of Hong Kong's igneous and metamorphic rocks; examination of the Hong Kong geological maps. Fieldtrips during the weekends are required as part of the course.

Pre-requisite: a bachelor degree in Geology or Earth Sciences.

GEOS7015 Rock mechanics (approximately 18 hours) Fees \$6600 **HKIE**

Taught by Dr Louis NY Wong and Ir Ivan Ho, GEO

(Tuesdays 25 October to 29 November 2022, 7:00pm – 9:45pm, 6 meetings)

The course introduces the basic concepts of rock mechanics used in geotechnical practice. Topics include index properties, strength and deformability of intact rock; distribution and measurement of in-situ stresses; and shear strength of discontinuities in rock masses. Pre-requisite: school science to HK A-Level or DSE or equivalent.

GEOS7016 Soil mechanics (approximately 18 hours) Fees \$6600 **HKIE**

Taught by Prof Philip Chung, GEO and Ir Florence Ko, GEO

(Tuesdays 6 September to 18 October 2022, 7:00pm – 9:45pm, 6 meetings)

An examination of the basic soil mechanics theory used in geotechnical practice. The course reviews phase relationships, soil classification, compaction, fluid flow and effective stress concepts; and provides a more detailed analysis of elasticity, shear strength and consolidation. Pre-requisite: school science to HK A-Level or DSE or equivalent.

GEOS7024 Management (approximately 18 hours) Fees \$6600 **HKIE**

Taught by Dr PL Ng

(Fridays 2 September to 7 October 2022, 7:00 – 9:45pm, 6 meetings)

This subject will cover most of the following. Engineering processes, programming and procurement strategies: project framework, common methods for obtaining investigation, design and construction services and project programming. Contract management: Engineer's and contractor's site organisation, common forms of contract, specifications, methods of measurement, quantities and cost estimation, variations and claims, approaches to dispute resolution. Construction site safety, health and environmental aspects: Relevant regulations, environmental impacts of works and mitigation strategies. Quality control and quality assurance.

GEOS8101 Engineering geology and geotechnical design (approximately 36 hours) Fees \$13,200 **HKIE**

Taught by Prof Philip Chung, GEO and Ir Vickie Kong, GEO

(Mondays 5 September to 28 November 2022, 7:00pm - 9:45pm, 12 meetings)

An examination of civil engineering design methodology and the application of soil mechanics theory and empiricism in geotechnical design. Emphasis is given to soil slopes and embankments, earth pressure and retaining structures and shallow and deep foundations. Pre-requisite: GEOS7016 Soil Mechanics or equivalent.

GEOS8205 Mathematics I (approximately 36 hours) Fees \$13,200 **HKIE**

Taught by Dr FL Tsang

(Wednesdays 7 September to 30 November 2022, 7:00pm – 9:45pm, 12 meetings)

This course, together with GEOS8206 Mathematics II, strives to provide a comprehensive introduction to the fundamental mathematics that all earth scientists need. Topics include the language of sets, the concept of matrices and its applications, functions, limits, first order differentiation, applications of derivatives, first order Taylor's expansion, properties of exponential and logarithmic functions, the notation of integration, integration techniques, volume of revolution, higher order differentiation and Taylor's expansion, Hessian test for functions of two variables, the concept of multiple integration, and volume using triple integration. Pre-requisite: a bachelor degree in Geology or Earth Sciences.

HKIE Courses approved by HKIE. These are some of the courses which a graduate in Earth Sciences or Geology would need to meet the entry requirements of the Hong Kong Institution of Engineers in the Geotechnical Discipline.

A student must attend at least 80% of the meetings to receive a Certificate of Attendance. A Certificate of Completion is awarded to students who also successfully pass the assessment (examination and assignments).

For queries please contact Prof. Andrew Malone awmalone@hku.hk Tel: 2559 2555
or Miss Erica Lee erica25@hku.hk DES General Office Tel: 2857 8247

**Application Form for Enrolment in CPD Courses from the MSc in Applied Geosciences
SEPTEMBER TO DECEMBER 2022**

Apply by 24 August 2022

<u>Courses</u>	<u>credits</u>	<u>Fees</u>
GEOS7010 Geology principles and practice	6 credits	HK\$13,200
GEOS7011 Advanced geology of Hong Kong	6 credits	HK\$13,200
GEOS7015 Rock mechanics	3 credits	HK\$6600
GEOS7016 Soil mechanics	3 credits	HK\$6600
GEOS7024 Management	3 credits	HK\$6600
GEOS8101 Engineering geology and geotechnical design	6 credits	HK\$13,200
GEOS8205 Mathematics I	6 credits	HK\$13,200

Family Name: _____ Given names: _____

Postal Address: _____

Phone numbers: Day _____ Home/Mobile _____ Fax: _____

Personal email: **ESSENTIAL** _____

Current position: _____ Company: _____

First Degree field of study: _____ Other Degrees _____

Course(s) applied for: _____

Total fees: HK\$ _____

Signature: _____ Date: _____

How did you find out about these CPD courses? _____

Please return a completed application form and your cheque, payable to “*The University of Hong Kong*”, to the following address:

**Director, MSc in Applied Geosciences
Department of Earth Sciences
The University of Hong Kong
Pokfulam Road
Hong Kong**

You will be notified by email regarding approval of application and meeting dates and venue.

These courses will qualify for advanced standing in the MSc in Applied Geosciences.