

THE EDUCATION UNIVERSITY OF HONG KONG

Course Outline

Part I

Programme Title	: Bachelor of Education (Honours) (Geography) (Five-year Full-time)
Programme QF Level	: 5
Course Title	: Geomorphology and Hydrology
Course Code	: GGP4010
Department	: Science and Environmental Studies; Social Sciences and Policy Studies
Credit Points	: 3
Contact Hours	: 39
Pre-requisite(s)	: Nil
Medium of Instruction	: English
Course Level	: 4

Part II

The University's Graduate Attributes and seven Generic Intended Learning Outcomes (GILOs) represent the attributes of ideal EdUHK graduates and their expected qualities respectively. Learning outcomes work coherently at the University (GILOs), programme (Programme Intended Learning Outcomes) and course (Course Intended Learning Outcomes) levels to achieve the goal of nurturing students with important graduate attributes.

In gist, the Graduate Attributes for Sub-degree, Undergraduate, Taught Postgraduate, Professional Doctorate and Research Postgraduate students consist of the following three domains (i.e. in short "PEER & I"):

- Professional Excellence;
- Ethical Responsibility; &
- Innovation.

The descriptors under these three domains are different for the three groups of students in order to reflect the respective level of Graduate Attributes.

The seven GILOs are:

1. Problem Solving Skills
2. Critical Thinking Skills
3. Creative Thinking Skills
- 4a. Oral Communication Skills
- 4b. Written Communication Skills
5. Social Interaction Skills
6. Ethical Decision Making
7. Global Perspectives

1. Course Synopsis

This course aims to provide students with the in-depth knowledge of geomorphology and hydrology. Diversity of landforms upon hydrologic, geologic, and anthropogenic controls will be examined. Processes controlling the near-surface components of the hydrological cycle, their interactions with the physical environment and the impacts on human systems will be covered.

2. Course Intended Learning Outcomes (CILO_S)

Upon completion of this course, students will be able to:

- CILO₁: Demonstrate and apply theoretical and practical knowledge in forms and processes of hydrology and geomorphology, to different local and global environmental contexts;
- CILO₂: Evaluate the impacts and interactions between hydrological and geomorphological processes, on climate, landforms, human settlement patterns and natural disasters;
- CILO₃: Understand basic data collection tools and methods about hydrological and geomorphological processes; and
- CILO₄: Appreciate the ecosystem services provided by the hydrosphere and lithosphere.

3. Content, CILOs and Teaching & Learning Activities

Course Content	CILOs	Suggested Teaching & Learning Activities
1. Landforms: agents and processes	CILO _{1,4}	♦ Lectures
2. Rocks, weathering, erosion, mass movement and slopes	CILO _{1,2,4}	♦ Presentation
3. The drainage basin and hydrology		♦ Discussion
4. Fluvial processes, landforms and management		♦ E-learning
5. Tectonic structure and global geomorphology		♦ Self-directed learning
6. Volcanicity and landforms		
7. Coastal processes, landforms and management		
8. Techniques and field investigation	CILO _{1,3}	

4. Assessment

Assessment Tasks	Weighting (%)	CILOs
(a) Coursework <ul style="list-style-type: none">Including class and workshop exercises	40%	CILO _{1,2,3,4}
(b) Mid-term quiz	20%	CILO _{1,2,3,4}
(c) Virtual field activity design <ul style="list-style-type: none">An inquiry-based virtual field activity and assessment design for use in teaching a secondary school geography topic in Hong Kong	40%	CILO _{1,2,3,4}

5. Required Text(s)

Bierman & Montgomery (2020) *Key Concepts in Geomorphology* (2nd edn.). Macmillan Learning.

6. Recommended Readings

Bishop, V. & Prosser R. (2001) *Landform systems* (2nd edn.). Collins.

Gregory, K.J. (2010) *The Earth's Land Surface: Landforms and Processes in Geomorphology*. Sage Publ.

Goudie, A. (1995) *The Changing Earth: rates of geomorphological processes*. Blackwell.

Harvey, A. (2012) *Introducing Geomorphology: a guide to landforms and processes*. Dunedin Academic Press.

Huggett, R.J. (2011) *Fundamentals of Geomorphology*. Routledge.

Knighton D. (1998) *Fluvial Forms & Processes: a new perspective*. Arnold.

Rice, R.C. (1977) *Fundamentals of Geomorphology*. Longman.

Ritter, D.F., Kochel, R.C. & Miller, J.R. (2011) *Process Geomorphology* (5th edn.). Waveland Pr Inc.

Summerfield, M.A. (1991) *Global Geomorphology*. Longman.

Ward, R.C. & Robinson, M. (1999) *Principles of Hydrology* (4th edn.). McGraw-Hill.

7. Related Web Resources

Atlas of igneous and metamorphic rocks, minerals and textures:

<http://leggeo.unc.edu/Petunia/IgMetAtlas/mainmenu.html>

Geomorphology from Space, NASA

<http://daac.gsfc.nasa.gov/geomorphology/>

Google Earth

<http://www.google.com/earth/>

Examples of landforms depicted on topographic maps

<http://www.csus.edu/indiv/s/slaymaker/Archives/Geol10L/landforms.htm>

Visible Earth

<http://visibleearth.nasa.gov/>

Volcano hazards program, USGS:

<http://volcanoes.usgs.gov/>

8. Related Journals

CATENA

Earth and Planetary Science Letters

Earth Surface Processes and Landforms

Geomorphology

Hydrology Research

Journal of Hydrology

9. Academic Honesty

The University upholds the principles of honesty in all areas of academic work. We expect our students to carry out all academic activities honestly and in good faith. Please refer to the *Policy on Academic Honesty, Responsibility and Integrity* (<https://www.eduhk.hk/re/uploads/docs/000000000016336798924548BbN5>). Students should familiarize themselves with the Policy.

10. Others

Newspapers and magazines related to topic issues.

Updated December 2023