

## THE EDUCATION UNIVERSITY OF HONG KONG

### Course Outline

#### Part I

<b>Programme Title</b>	: Bachelor of Education (Honours) (Geography) (Five-year Full-time)
<b>Programme QF Level</b>	: 5
<b>Course Title</b>	: Foundation of Physical Geography
<b>Course Code</b>	: GGP1001
<b>Department</b>	: Science and Environmental Studies; Social Sciences and Policy Studies
<b>Credit Points</b>	: 3
<b>Contact Hours</b>	: 39
<b>Pre-requisite(s)</b>	: Nil
<b>Medium of Instruction</b>	: English
<b>Course Level</b>	: 1

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#### 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 is an introductory course about the physical and biological environment that interacts with human beings. The course will cover the processes that govern the character and spatial patterns of the physical landscapes, including solar energy input, water cycle, ocean and atmospheric circulation; and how these processes shaped our planet's ecosystems and geomorphological landforms. Emphasis will be placed on the interactions between various physical systems and their relationships with the biota, including human beings ourselves.

## 2. Course Intended Learning Outcomes (CILOs)

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

CILO<sub>1</sub>: understand the nature and relevant concepts of physical geography

CILO<sub>2</sub>: describe the major processes involved in the atmosphere, hydrosphere, lithosphere and biosphere that influence the characteristics and spatial relationships of climate, hydrology and vegetation

CILO<sub>3</sub>: identify the relationships among the four spheres of our Earth system

CILO<sub>4</sub>: understand the role played by scale in our study of different geophysical processes that have caused variations in different geographical processes, elements, or features

CILO<sub>5</sub>: appreciate the ways that the geophysical environment interacts with the biota, including our human societies

## 3. Content, CILOs and Teaching & Learning Activities

Course Content	CILOs	Suggested Teaching & Learning Activities
A. The Earth's environmental systems <ul style="list-style-type: none"><li>- Introducing physical geography</li><li>- Spheres, systems and cycles</li></ul>	CILO <sub>1,4,5</sub>	<ul style="list-style-type: none"><li>- Lectures</li><li>- Presentation</li><li>- Discussion</li></ul>
B. Global energy balance and the thermal environment <ul style="list-style-type: none"><li>- Radiation balance and insolation</li><li>- Composition and structure of the atmosphere</li><li>- Spatial and temporal variation of air temperature</li></ul>	CILO <sub>2,3,4,5</sub>	<ul style="list-style-type: none"><li>- E-learning</li><li>- Self-directed learning</li></ul>
C. Atmospheric circulation, weather systems and world's climates <ul style="list-style-type: none"><li>- Pressure and winds</li><li>- Global wind and pressure pattern</li><li>- Air masses and weather systems</li><li>- Global climates</li></ul>		

Course Content	CILOs	Suggested Teaching & Learning Activities
<p>D. Global biogeography and processes</p> <ul style="list-style-type: none"> <li>- Energy and ecosystems</li> <li>- Biogeochemical cycles</li> <li>- The biomes</li> </ul> <p>E. Earth materials and plate tectonics</p> <ul style="list-style-type: none"> <li>- Minerals and rocks</li> <li>- Plate tectonics</li> <li>- Volcanic landforms</li> <li>- Tectonic landforms</li> </ul> <p>F. Global hydrology, freshwater resources and fluvial processes</p> <ul style="list-style-type: none"> <li>- Hydrological cycle</li> <li>- Soil erosion</li> <li>- Fluvial processes and landforms</li> <li>- Droughts and floods</li> </ul> <p>G. Coastal environments and processes</p> <ul style="list-style-type: none"> <li>- Global change and coastal environments</li> <li>- Work of waves and tides</li> <li>- Types of coastlines</li> </ul>		

#### 4. Assessment

Assessment Tasks	Weighting (%)	CILO
<p>In-class and e-learning exercises</p> <p>Allows students to explore Earth related processes and outcomes</p>	40%	<i>CILO</i> <sub>1,2,3,4,5</sub>
<p>Group presentation</p> <p>Student presentation on a selected topic related to human impacts upon various Earth systems</p>	20%	<i>CILO</i> <sub>1,2,3,4,5</sub>
<p>Examination</p> <p>MCQ and short questions</p>	40%	<i>CILO</i> <sub>1,2,3,4,5</sub>

## 5. Required Text(s)

Strahler, A. (2013) *Introducing Physical Geography* (6<sup>th</sup> edn.) Wiley, 672pp.

## 6. Recommended Readings

Barry, R. & Chorley R. (2009) *Atmosphere, Weather and Climate* (9<sup>th</sup> edn.). Routledge, 532pp.

Christopherson, R.W. (2014) *Geosystems: An Introduction to Physical Geography* (9<sup>th</sup> edn.). Prentice Hall, 696pp.

Goudie, A. (2018) *The Human Impact on the Natural Environment* (8<sup>th</sup> edn.). Wiley-Blackwell, 480pp.

Hay, W.W. (1996) 'Tectonics and climate', *Geologische Rundschau: Zeitschrift für allgemein Geologie* 85: 409–37.

Hess, D. & Tasa D. (2013) *McKnight's Physical Geography: a landscape appreciation*. Pearson, 688pp.

Imbrie, J. and K.P. Imbrie (1986) *Ice Ages: Solving the Mystery*. Harvard University Press, 224pp.

Knighton, D. (1998) *Fluvial Forms and Processes: A New Perspective* (2<sup>nd</sup> edn.). Arnold, 400pp.

IPCC. (2023) *AR6 Synthesis Report: Climate Change 2023*.

Lowe, J. & Walker M. (2014) *Reconstructing Quaternary Environments* (3<sup>rd</sup> edn.). Routledge, 568pp.

Molnar, P. & England P. (1990) 'Late Cenozoic uplift of mountain ranges and global climate change: chicken or egg?' *Nature* 346: 29–34.

Morton, O. (1998) 'The storm in the machine', *New Scientist* 157: 22–27.

Newson, M.D. (1994) *Hydrology and the River Environment*. Blackwell.

Robinson, P.J. and Henderson-sellers, A. (2016) *Contemporary Climatology* (2<sup>nd</sup> edn) Routledge, 340pp.

Shaw, E.M., Beven, K.J., Chappell N.A. & Lamb R. (2010) *Hydrology in Practice* (4<sup>th</sup> edn.). CRC Press.

Skinner, B., Porter S. & Park, J. (2003) *The Dynamic Earth: An Introduction to Physical Geology* (5<sup>th</sup> edn.). Wiley, 640pp.

Smithson, P., Addison, K. and Atkinson, K. (2008) *Fundamentals of the Physical Environment* (4<sup>th</sup> edn) Routledge, 776pp.

Summerfield M.A. (1991) *Global Geomorphology*. Longman, 560pp.

## 7. Related Web Resources

Physicalgeography.net:

<http://www.physicalgeography.net/>

GCSE Bitesize Geography, BBC:

<http://www.bbc.co.uk/schools/gcsebitesize/geography/>

Fundamentals of Physical Geography, UBC:

<http://serc.carleton.edu/resources/22397.html>

## **8. Related Journals**

*Applied Geography*

*Climatic Change*

*Geografiska Annaler: Series A, Physical Geography*

*Global Environmental Change*

*Journal of Geographical Sciences*

*Proceedings of the National Academy of Sciences*

*Progress in Physical Geography*

*Physical Geography*

## **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/00000000016336798924548BbN5>). Students should familiarize themselves with the Policy.

## **10. Others**

Newspapers and magazines related to topic issues.

*Updated August 2024*