

## 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>	: Natural Hazards
<b>Course Code</b>	: GGP3007
<b>Department</b>	: Science and Environmental Studies / Social Sciences
<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>	: 3

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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 Undergraduate, Taught Postgraduate 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 provides students with the knowledge of a wide range of natural hazards, their impacts on human societies and relevant hazard adjustment measures. The course covers threats from nature such as geological, geomorphological, atmospheric, and biological hazards. The formation, process, distribution and impacts of these natural hazards on human societies will be examined in details. Responses from the human societies to the occurrence of these hazards will be discussed and evaluated for a deeper understanding of the human-nature relationship

## 2. Course Intended Learning Outcomes (CILOs)

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

- CILO<sub>1</sub>: discuss the concept of environmental hazards
- CILO<sub>2</sub>: demonstrate competence in knowledge on the origins, characteristics and impacts of a variety of environmental hazards in both global and local contexts
- CILO<sub>3</sub>: discuss the hazard adjustment measures available to different societies, including Hong Kong
- CILO<sub>4</sub>: evaluate critically with regard to the relationship between human societies and hazards

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

Course Content	CILOs	Suggested Teaching & Learning Activities
1. Fundamentals of hazards and disasters 2. Risks, vulnerability & responses	CILO <sub>1,4</sub>	<ul style="list-style-type: none"><li>• Lectures</li><li>• Presentation</li><li>• Discussion</li><li>• E-learning</li><li>• Self-directed learning</li></ul>
3. Geophysical hazards: volcanicity, seismicity (including tsunamis), mass movements 4. Meteorological hazards: tropical cyclones, extreme temperatures, thunderstorms 5. Hydrological hazards: droughts and floods 6. Biological hazards: pests & infectious diseases (malaria & influenza) 7. Technological hazards: large-scale structures, transport, industrial & nuclear 8. Linkage of environmental & climate change with natural hazards	CILO <sub>2,3,4</sub>	

#### 4. Assessment

Assessment Tasks	Weighting (%)	CILOs
Hazard diary <ul style="list-style-type: none"><li>A record of various hazards for the duration of the semester outlining the location, impacts and mitigation measures</li></ul>	40%	CILO <sub>1,2,3,4</sub>
Group presentation <ul style="list-style-type: none"><li>Student presentation on a selected case study related to a hazard recorded in their diary</li></ul>	20%	CILO <sub>1,2,3,4</sub>
1-hour Examination <ul style="list-style-type: none"><li>Closed book examination with multiple choice and essay type questions</li></ul>	40%	CILO <sub>1,2,3,4</sub>

#### 5. Required Text(s)

Keith S. (2013) *Environmental Hazards: Assessing Risk and Reducing Disaster* (6<sup>th</sup> edn.). Routledge.

#### 6. Recommended Readings

Abbott, P.L. (2008). *Natural disasters*. McGraw-Hill.

Alexander, D.E. (2002) *Principles of Emergency Planning and Management*. Terra Publishing.

Guha-Sapir D., Hoyois P. & Below R. (2014) *Annual Disaster Statistical Review 2013: the numbers and trends*. Centre for Research on the Epidemiology of Disasters (CRED).

Guha-Sapir D., Hargitt, D. & Hoyois P. (2004) *Thirty Years of Natural Disasters 1974 – 2003: the numbers*. UCL Presses.

Hyndman, D. W., & Hyndman, D. W. (2009). *Natural hazards and disasters* (2<sup>nd</sup> edn.). Brooks/Cole.

Keller, E.A. & DeVecchio, D.E. (2014) *Natural Hazards: Earth's Processes as Hazards, Disasters, and Catastrophes* (4<sup>th</sup> edn.). Prentice Hall.

Paul, B.K. (2011) *Environmental Hazards and Disasters: Contexts, Perspectives and Management*. Wiley.

Trenberth, K.E. et al. (2007) *Observations: Surface and Atmospheric Climate Change*. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press.

Wisner, B., Gaillard, J.C. and Kelman, I. (2012) *The Routledge Handbook of Hazards and Disaster Risk Reduction*. Routledge.

Wisner, B., Blaikie, P., Cannon, T. & Davis, I. (2003). *At risk: Natural hazards, people's vulnerability and disasters* (2<sup>nd</sup> edn.). Routledge.

#### 7. Related Web Resources

EM-DAT Database

<http://www.emdat.be/database>

Disaster statistics, UNISDR

<http://www.unisdr.org/we/inform/disaster-statistics>

Natural Disasters. Protecting the Public's Health:

[http://www.paho.org/hq/index.php?option=com\\_content&view=article&id=2186:natural-disasters-protecting-public-s-health&Itemid=1894&lang=en](http://www.paho.org/hq/index.php?option=com_content&view=article&id=2186:natural-disasters-protecting-public-s-health&Itemid=1894&lang=en)

Natural Disaster Risk Reduction, UNESCO

<http://www.unesco.org/new/en/unesco/themes/pcpd/natural-disaster-risk-reduction/>

Natural Hazards and Disasters Information Resources, University of Colorado at Boulder

<http://www.colorado.edu/hazards/resources/>

Teaching about Hazards in Geoscience

<http://serc.carleton.edu/NAGTWorkshops/hazards/index.html>

## **8. Related Journals**

*Community, Environment and Disaster Risk Management*

*Disaster Prevention and Management*

*Geomatics, Natural Hazards and Risk*

*Environmental Hazards*

*International Journal of Disaster Resilience in the Built Environment*

*Natural Hazards*

*Natural Hazards and Earth System Science*

*Natural Hazards Review*

## **9. Academic Honesty**

The University adopts a zero tolerance policy to plagiarism. For the University's policy on plagiarism, please refer to the *Policy on Academic Honesty, Responsibility and Integrity with Specific Reference to the Avoidance of Plagiarism by Students* (<https://www.eduhk.hk/re/modules/downloads/visit.php?cid=9&lid=89>). Students should familiarize themselves with the Policy.

## **10. Others**

Newspapers and magazines related to topic issues.

*Updated 31 July 2017*