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	**:** Climate Change and Global Warming
Course Code	**:** GGP3008
Department	**:** Social Sciences and Policy Studies
Credit Points	**:** 3
Contact Hours	**:** 39
Pre-requisite(s)	**:** Nil
Medium of Instruction	**:** English
Course Level	**:** 3

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"):

- **P**rofessional **E**xcellence;
- **E**thical **R**esponsibility; **&**
- **I**nnovation.

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 knowledge of basic science of climate change and the impacts of contemporary global warming on human societies. The role of human beings on climate change will be critically examined. Mitigation and adaptation measures for global warming will be covered through local and overseas case studies. In addition, sustainable changes of the human behaviour and lifestyle will also be evaluated in the context of climate change adaptation and mitigation.

2. Course Intended Learning Outcomes (CILOs)

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

$CILO_1$: demonstrate competence in knowledge on the interpretation of climate change by different stakeholders in society.

$CILO_2$: explain the causes and impacts of climate change and global warning

$CILO_3$: distinguish fundamental interrelationships of climate change and global warming with individuals and societies.

$CILO_4$: evaluate and critique information, policies and discourses concerning climate change and global warming.

$CILO_5$: criticize the contemporary mitigation and adaptation measure for climate change.

3. Content, CILOs and Teaching & Learning Activities

Course Content	CILOs	Suggested Teaching & Learning Activities
A. Basics of global climate a) Components and phenomena in the climate system b) Energy flow c) Atmospheric circulation patterns d) Hydrological cycle e) Carbon and nutrient cycles.	$CILO_{2,3}$	• Lectures • Classroom discussions
B. Weather, climatic variability and climate change a) Overview about past, recent and future climate change b) Cause of climate change including natural processes and human activities c) Consequences of climate change, such as change of regional climate circles, ecological effects etc.	$CILO_{2,3}$	• Lectures • Classroom discussions

C. Introducing the science of global warming a) Greenhouse gas b) Greenhouse effects on global warming c) Links between economic forces, the carbon cycle, and the earth's climatic response to warming	$CILO_{1,2,3}$	• Lectures • Classroom discussions
D. Monitoring and mitigation a) Assessing climate change vulnerability b) Approaches to reduce impacts: natural system and human system c) Low carbon economy and society d) Policies for environmental sustainability: regional and national aspects e) Geoengineering	$CILO_{4,5}$	• Lectures • Field trip • Classroom discussions • Case studies
E. Imperatives for adaptive responses a) Vulnerability and actions in developing and developed world context b) Inequality and poverty	$CILO_{4,5}$	• Lectures • Classroom discussions • Case studies

4. Assessment

Assessment Tasks	Weighting (%)	CILO
(a) Group Project Students are required to undertake a group project report relating to climate change mitigation or adaptation measures.	30%	$CILO_{1,\ 2,\ 3}$
(b) Group Presentation Students are required to present their group project.	20%	$CILO_{1,2,3,4,5}$
(c) Examination A two-hour written examination comprising of various format of questions aiming to assess different levels of knowledge on climate change and global warming.	50%	$CILO_{1,2,3,4,5}$

5. Use of Generative AI in Course Assessments

Please select one option only that applies to this course:

☐ ***Not Permitted***: In this course, the use of generative AI tools is not allowed for any assessment tasks.

☑ ***Permitted***: In this course, generative AI tools may be used in some or all assessment tasks. Instructors will provide specific instructions, including any restrictions or additional requirements (e.g., proper acknowledgment, reflective reports), during the first lesson and in relevant assessment briefs.

6. Required Text(s)

Nil

7. Recommended Readings

Adger, W. N.; Lorenzoni, I.; & O'Brien, K. L. (2009). Adapting to climate change: thresholds, values, governance. Cambridge: Cambridge University Press, 532pp.

Drake, F. (2014). Global warming: The science of climate change. London: Arnold.

IPCC, 2022: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Portner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegria, M. Craig, S. Langsdorf, S. Loschke, V. Moller, A. Okem, B. Rama (eds.)]. Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 pp., doi:10.1017/9781009325844.

IPCC, 2022: Summary for Policymakers [P.R. Shukla, J. Skea, A. Reisinger, R. Slade, R. Fradera, M. Pathak, A. Al Khourdajie, M. Belkacemi, R. van Diemen, A. Hasija, G. Lisboa, S. Luz, J. Malley, D. McCollum, S. Some, P. Vyas, (eds.)]. In: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.001.

IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001

Philander, S. G. (2008). Encyclopedia of global warming and climate change. Thousand Oaks, Calif.: Sage Publications.

Urry, J. (2012). Climate change and society. Cambridge: Polity.

8. Related Web Resources

HKEPD
http://www.edp.gov.hk/edp/english/climate_change/
350. Org: International campaign to promote just and science-based solutions to climate crisis.
www.350.org

United Nations, Department of Economic and Social Affairs: Climate Change and Sustainable Development
http://www.un.org/en/development/desa/climate-change/index.shtml
GreenFILE: Information on human impacts on the environment
http://library.ied.edu.hk/record=b1762886~S5
The International Research Center for Climate and Society
http://portal.iri.columbia.edu/portal/server.pt

9. Related Journals

Climate Policy
International Journal of Climate Change Strategies and Management
Journal of Climate Change
International Journal of Global Warming
International Journal of Global Warming and Climate Change
Development and Change
Environment and Behavior
Global Environmental Change
Ecological Engineering
Global and Planetary Change
Environmental Science and Policy

10. 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/00000000001633679892454 8BbN5). Students should familiarize themselves with the Policy.

11. Others

Newspaper articles and other media reports, including contemporaneous reporting, related to the course; recent related reports from scientific organizations and nongovernmental organizations; new video media and websites.

July 2025