

**TIMETABLE ARRANGEMENT:** Annual; 2nd Semester**CREDITS:** 6**COURSE TEACHER(S):** Professor Peng ZHU**ASSESSMENT:****COURSEWORK 100 %**

- Essay
- In-class quizzes

**OBJECTIVES:**

The course aims to expand students' international horizons, establish a scientific understanding of the interaction between humans and nature, enhance their understanding of global change and effect on the sustainable development of society, and ultimately strengthen students' competence in dealing with various affairs in an international setting.

**COURSE SYNOPSIS:**

The course discusses the structure and function of the Earth system, including life and biodiversity, ecological environment, water resources, agriculture and land use, population, cities, energy, climate, economy, health, causes and impacts of natural disasters, etc. at the global scale. It reviews strategies adopted or to be developed under current and future global environmental changes, especially on climate change. The course will engage students in in-depth group discussions on the above issues from multidisciplinary perspectives and train students to analyze global change issues independently.

**LECTURE TOPICS:**

- General issues in global change and sustainable development
- Earth system and climate change
- Global carbon and nitrogen cycling
- Global agricultural issues
- Global water issues
- Global energy challenge
- Global ecological issues
- Global urbanization
- Satellite observation and global change
- Global natural disasters
- Climate scenario and socioeconomic pathways
- Climate change and future earth

**RECOMMENDED READING LIST:**

- Bonan, G. (2015). Ecological climatology: concepts and applications. Cambridge University Press. ISBN 9780511805530.
- Tim Lenton (2016). Earth System Science: A Very Short Introduction. Oxford University Press. ISBN 978-0-19-871887-1

Course Learning Outcomes (CLOs) After completing this course, students would be able to:		Alignment with Programme Learning Outcomes (PLOs)*						Course Assessment Methods
		1	2	3	4	5	6	
1	Describe the complex relationship between the natural and human systems and explain the main processes	✓	✓					Essay and quizzes
2	Understand the causes of global changes and their effects	✓	✓			✓		Essay and quizzes
3	Assess the interdependence of human activities and global environment through analysis	✓	✓	✓	✓			Essay and quizzes
4	Evaluate different social sustainable development goals and strategies			✓	✓	✓	✓	Essay and quizzes

In order to meet the demands and challenges in this dynamic and ever-changing world, the Department has designed a series of well-structured and contemporary courses to cater to the different interests of students. Its courses are designed to align with the University's educational aims which hope to nurture future generations not only with a critical and intellectual mindset, but also with a passion to contribute to society in general.

After completing the programme, Geography Major students should be able to:

**PLO1** critically analyse the geographical aspects of the relationship between people and the natural environment;

**PLO2** demonstrate and develop an understanding of how these relationships have changed with space and over time;

**PLO3** identify, collect and utilize primary and secondary data to investigate and analyse the issues and problems facing people, places and society;

**PLO4** integrate, evaluate and communicate information from a variety of geographical and other sources;

**PLO5** participate in promoting social, economic and environmental sustainability at the local, regional and global scales; and

**PLO6** effectively apply a range of transferable skills in academic, professional and social settings.