

GEOG3203 Climate Change and the Environment (6 credits)

Course Teacher: Dr J B Li

Objectives

This course has as its primary concern climatic conditions on Earth and their interactions with life and human activities over space and time.

Course Synopsis

This course examines climatic conditions on Earth and their interaction with environment and human society. It will focus on climate change, since to deal sensibly with questions raised concerning future climatic conditions and evaluation of their impact on environment and society, it is essential to understand the nature of the climate system and what causes it to change. In particular, the impact of human activities on the climate system will be set in perspective alongside the background of natural changes in the climate of our planet. Issues associated with societal decisions taken today and their potential impact on climate over the next century will also be discussed.

Lecture Topics

- The climate system and its operation
- The greenhouse effect and climate change
- Climate change: Observations and paleoclimate reconstructions
- Climate change: Climate modeling and projections of future climate

Assessment

Examination (two hours) 60%; Coursework 40% (consists of biweekly short essays and one project).

Learning Outcomes

Knowledge:

- An understanding of the climate system and climate change
- An understanding of past climates, their cycles and mechanisms of change
- An understanding of climate modeling and scenario development
- An understanding of key issues concerning societal decisions and their potential impact on climate over the next century

Skills:

- Critical reading and writing skills
- To enhance individual presentation skills
- Ability to think critically about the impact of human activities on the climate system within the context of natural changes in the climate of our planet

Recommended Reading List

1. IPCC (2013) *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
2. Burroughs, W. (2007) *Climate Change: A Multidisciplinary Approach*, 2nd edition. Edinburgh: Cambridge.
3. Houghton, J. (2009) *Global Warming: The Complete Briefing*, 4th edition. Edinburgh: Cambridge.