

## Liverpool John Moores University

Title: CLIMATE CHANGE: SCIENCE AND SOCIETY  
Status: Definitive  
Code: **5114NATSCI** (119659)  
Version Start Date: 01-08-2015

Owning School/Faculty: Natural Sciences & Psychology  
Teaching School/Faculty: Natural Sciences & Psychology

| Team                 | Leader |
|----------------------|--------|
| Tom Matthews         | Y      |
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**Academic Level:** FHEQ5      **Credit Value:** 24.00      **Total Delivered Hours:** 62.00

**Total Learning Hours:** 240      **Private Study:** 178

### Delivery Options

Course typically offered: Standard Year Long

| Component | Contact Hours |
|-----------|---------------|
| Lecture   | 36.000        |
| Practical | 24.000        |

**Grading Basis:** 40 %

### Assessment Details

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|----------|-------------------|-------------|---------------|---------------|
| Essay    | Lit Review        |             | 20.0          |               |
| Report   | Rpt               |             | 40.0          |               |
| Exam     | Exam              |             | 40.0          | 2.00          |

### Aims

*To provide a knowledge and understanding of the physical causes, impacts and human response to contemporary climate change, set within a longer-term palaeoclimate context. To develop skills in acquiring and interpreting climate model*

*output at varying temporal and spatial resolutions, and to analyse the potential environmental and socio-economic impacts of future scenarios. To develop the ability to critique internationally important issues relating to the scientific and social aspects of climate change.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Develop a knowledge and understanding of how the earth's climate has changed during the instrumental period, set within a longer-term palaeoclimate context
- 2 Explain the factors responsible for contemporary climate change and critique the range of opinions across science and society with respect to these causes
- 3 Apply practical skills to acquire and interpret climate model output at a range of temporal and spatial resolutions and to consider the potential environmental and socio-economic impacts of these future scenarios
- 4 Explore the ways in which humans respond to climate change at the international and the individual level

## **Learning Outcomes of Assessments**

The assessment item list is assessed via the learning outcomes listed:

|                        |   |   |   |
|------------------------|---|---|---|
| Literature Review      | 1 | 2 |   |
| Climate Impacts Report | 3 |   |   |
| Examination            | 1 | 2 | 4 |

## **Outline Syllabus**

*An introduction to the climate system. Detection of contemporary climate change observations from the instrumental record, from changes in large-scale earth systems such as alpine glaciers, sea ice, sea level, and from secondary indicators. An introduction to palaeoclimate and proxies for palaeoclimate reconstruction. The attribution of climate change through natural and anthropogenic forcing mechanisms. Climate models and future projections. Application of climate change scenarios and impacts of future scenarios, including doomsday scenarios. Vulnerability and adaptation of society to climate change. Climate change policy, mitigation and social attitudes to sustainability and climate change scepticism.*

## **Learning Activities**

The module combines lectures with practical discussion-based, paper-based, laboratory and computer-based exercises to provide a sound theoretical and practical understanding of climate change as a physical and social science.

## Notes

Climate change has become one of the leading issues on the international political agenda and much concern still remains over the volumes of greenhouse gases humans are pumping into the atmosphere. Global efforts to cut emissions have achieved very limited success and the impacts of climate change are set to escalate over the coming century. Through the twin lenses of scientific scrutiny and socio-political analysis, this module examines the many facets that make up contemporary climate change, from the observed changes and physical causes to the impacts and human response. As such, this module bridges many of the gaps between physical and human geography and opens up a wide range of final year modular options, as well as providing a range of transferable and employable key skills including laboratory work, data processing, debating and report writing.