

PROGRAMA DE ESPECIALIZACIÓN INTERNACIONAL EN ECOINNOVACIÓN

Título/Nombre: Master en Cambio climático- MSc Climate Change and Risk Management

Centro de especialización: University of Exeter, Cornwall Campus.

Lugar: Exeter (Reino Unido), Cornwall Campus

Duración: 1 curso académico

Fecha de Comienzo: Octubre 2008

Solicitantes:

- ✓ Jóvenes titulados en CC Ambientales, CC Químicas,, CC Físicas, Geología, Ingenierías Superiores, Biología , y/o titulaciones equivalentes.
- ✓ Residentes en la CAPV

Número de plazas: 1

Requisitos:

- A Second Class Honours degree or equivalent.
- Personas tituladas hace no más de 4 años
- Buen expediente académico.
- ✓ **IELTS (International English Language Testing System) o**
- ✓ Overall score of at least 6.5
and no less than 6.0 in the writing section
- ✓ *and* no less than 5.0 in any other section

Programa de Formación:

Overview of Core (compulsory) Course Content

Issues in climate change - This module forms a broad introduction to climate change by covering important aspects of the nature and philosophy of climate change science. The history of climatic reconstructions is briefly described, as are the international political and scientific attempts at understanding the issue. The evidence for contemporary climate change is discussed and this is placed into the context of climate change throughout the Holocene. Finally, the arguments from the sceptics are discussed in detail.

Climate hazards and risk assessment - This module outlines the statistical basis behind the evaluation of hazard and risk when applied to distinct climatic events such as floods, droughts and storms, and when applied to incremental changes in climate parameters such as temperature. Also considered are risk impacts on human activities, including economic activity, health and wellbeing.

Research methods - This module considers the methodological steps involved in the design, data collection and analysis, and context of original research in climate science, including

undertaking a critical literature review and testing of multiple hypotheses. Key skills such as time management, presentational and organisational skills are also emphasised.

Dissertation - The dissertation comprises an original piece of independent research on a topic commensurate with themes in the overall degree programme. The dissertation nurtures the student's skills in formulating research questions, planning and conducting a research programme, and analysis and evaluation of results using appropriate techniques. The dissertation should be up to 15,000 words long

Overview of Optional Course Content

Philosophy of Science - The module places climate change science into the context of empirical scientific endeavour. It describes and analyses scientific methodologies including induction, deduction and critical rationalism and assesses the ways in which various components of climate science use these approaches. Climate science is discussed within the scheme of Kuhnian paradigm shifts and as an example of post-normal science. Concepts such as emergence and reductionism are explained with reference to current debates about the success of climate modelling.

Historic Climate Change - This module examines and assesses in detail the evidence for climate change during the late Holocene. Various techniques for reconstructing past climate change are described, including variations in glacier ELA, dendroclimatology, lichenometry and other proxy indices, and the advantages and disadvantages of each are analysed. Special attention is placed upon the success of recent attempts at reconstructing late Holocene climate change, the global evidence for the Medieval Warm Period and the Little Ice Age and the nature of climate forcings that caused these events.

Climate Modelling - In this module, the nature of climate modelling is described and the rationale behind such approaches examined. The module begins by outlining the history of modelling studies and outlines current General and Regional Circulation Models. We examine Detection and Attribution studies, the ways in which models can be verified, and recent attempts to produce an ensemble approach to modelling. Sceptic arguments against the success of modelling approaches are discussed in detail.

Climate change, policy and law - This module outlines the international agreements and national and international legislative framework for the evaluation, management and mitigation of climate change causes and effects. The module also introduces other concepts such as emissions trading, sequestration and the use of low-emissions technologies.

Reading group - This module is student-led and explores recent debates in climate change science and policy by discussion of recent selected papers in the discipline with the aim of establishing a better understanding of these recent debates through peer discussion with guidance by academic staff. Assessment will be through oral presentation in seminars with a view to formulating a theoretically-embedded commentary on the paper.

Rapid climate change - This module examines the evidence for and processes behind rapid climate changes on different scales and from all parts of the geological record. Issues discussed include Heinrich events and Dansgaard-Oeschger cycles and their relevance to, and fit with, other drivers of climate change including thermohaline circulation and solar variability. Atmosphere-ocean processes and interactions are also discussed.

Statistics and modelling - This module examines the some of the statistical bases behind our understanding of climate change. Basic statistics are outlined and then probability theory is discussed. Statistical uncertainty is assessed with reference to uncertainty in modelling and equifinality, quantification and communication of uncertainty.

Research Project

In addition to the taught component of the programme, you will carry out a substantial piece of work relating to the cutting edge of climate change and risk management research. For example, projects could be base upon the application of Remote Sensing technologies for earth

observation, Geographical Information Science, flood inundation modelling, mountain geomorphology, climate change as a business risk or institutional responses to climate change.

Dotación:

- ✓ **Matricula**
- ✓ **Bolsa de viaje:** 600 euros
- ✓ **Dotación económica** destinada a poyar gastos de manutención y alojamiento: 900 euros/mes
- ✓ **Seguro de accidentes**

Información e inscripciones:

- Las inscripciones (inserción de CV) se pueden realizar hasta el 1 de Junio, a través de la página web de Novia Salcedo Fundación: <http://www.noviasalcedo.es>, en el apartado Becas de especialización internacional