Universitat Autònoma de Barcelona

2021/2022

Climate Change and Environmental Risk

Code: 101587
ECTS Credits: 6

Degree

2501002 Geography and Spatial Planning

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities

Contact

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Use of languages

Principal working language: English

Some groups entirely in English: yes

Some groups entirely in Catalan: yes

Some groups entirely in Spanish: yes

Prerequisites

Successful completion of both the Physical Geography and Climatology courses.

Objectives and Contextualisation

Geography of Global Change is an optional second cycle course in Geography. The course has a total of 6 theory credits and includes a series of practicals. The main objective of the course is to explore causes, processes and consequences of global environmental change in the world today, with particular emphasis on human influence. Despite being global in extent, this change may manifest itself uniquely and differently depending on the temporal and spatial scales examined. The course considers the Earth as a system, and bases everything on the concepts of Earth System Science. Despite global-scale influences, more local-scale manifestations of such processes will also be explored and examined. Global environmental change is partly driven by human activities, with sometimes unexpected and indirect consequences. Some of these global change processes have become the subject of international attention and agreements, with the aim of minimizing negative impacts. With regard to more specific objectives, the course will be subdivided into introductory concepts and distinctions, and followed by distinct environmental spheres of impact, including the atmosphere, the oceans, and the land surfaces. With these distinctions in mind, constant exploration of more focused elements will occur, considering human population growth, urbanization, water and land use, transportation, energy and other resource consumption, pollution, and more.

Skills and learning outcomes

1. Carrying out oral presentations using an appropriate academic vocabulary and style.
2. Communicating the geographical problems about issues related to global change.
3. Defining the environmental problems in order to understand global change.
4. Describing the main characteristics of global change.
5. Drawing up innovative proposals.
6. Effectively communicating and applying the argumentative and textual processes to formal andscientific texts.
7. Identifying the ideas and expressing them in various languages with linguistic correctness.

Content

Block 1 Introduction to Global Change
- The Earth as a System
- Spatial and temporal scales (e.g. human, geologic, and all in between)
- Global change vs. climate change, similarities and distinctions

Block 2 The Atmosphere
- Defining the structure and composition (baseline for change)
- Greenhouse gases
- Industrial pollution

Block 3 The Oceans
- Role in global and climate change
- Non-climatic global changes (e.g. fisheries, pollution, exotic species invasions)
- Specific global change issues (monsoons, ENSO, hurricanes, etc.)

Block 4 Terrestrial Impacts
- The nature of land surfaces
- Specific terrestrial-based concerns (e.g. biosphere)
- Causes for concern and likely futuristic developments

Methodology

The course content will develop along the following lines:

- Lecture presentations
- Readings of relevant articles and book content
- Both individual and small group activity and discussion of concepts
- Question and answer / critical dialog

Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning outcomes
Type: Directed			
Theoretical classes	48	1.92	2, 3, 4, 6, 7
Type: Supervised			
Evaluation of field work	17	0.68	2, 3, 4, 6, 7
Type: Autonomous			
Independent work from the classes and finalization of the practical	55	2.2	2, 3, 4, 6, 7

Assessment

Evaluation will be based on both the theoretical (70%) and practical (30%) portions of the course. For the theoretical portion, equal weighting (30%) will be applied to both a short essay answer final exam, and research paper assignment on a global change topic of individual choice. Details on both will be provided when the course begins. 10% of the theoretical grade portion will be determined by a required field trip report. The delivery of 70% of the course activity is required to be evaluated. Those who do not reach70%will not be evaluated.

La copia o plagi de material, tant en el cas de treballs com en el cas dels exàmens, constitueixen un delicte que seràsancionat amb un zero a l'activitat. En cas de reincidència es tota l'assignatura. Recordem que es considerasuspendrà"còpia" un treball que reprodueix tot o gran part del treball d'un/a altre/a company/a. "Plagi" és el fet de presentar tot opart d'un text d'un autor com a propi, sense citar les fonts, siguin en papero en format digital. Vegeu documentació dela UAB sobre "plagi" a: http://wuster.uab.es/web_argumenta_obert/unit_20/sot_2_01.html

Assessment activities

Title	Weighting	Hours	ECTS	Learning outcomes
Field trip	25	8	0.32	2,3,4,6,7
Final Exam	50	2	0.08	2,3,4,6,7
Individual Project	25	20	0.8	2,3,4,6,1,7,5

Bibliography

BOADA, M.; SAURÍ, D. (2002). El canvi global, Barcelona: Rubes Editorial.

DUARTE, C. M. (2007): El Cambio Global. Madrid, CSIC.

GORE, A. (2007): Una Veritat Incòmoda. Barcelona, Edicions 62 (hi ha també versió en castellà)

GUGLER, J. (2004). World Cities. Globalization, Development and Inequality. Cambridge: CambridgeUniversity Press.

JOHNSTON, R.J., TAYLOR, P.J. I WATTS, M.J. (eds) (2002): Geographies of Global Change. Oxford:Blackwell (2ª edició).

LOVELOCK, J. (1992): Gaia. Una ciencia para curar el planeta. Barcelona, Integral.

MANNION, A.M. (1991): Global environmental change. Harlow, Essex: Longman.

MARSH,W.M. I GROSSA,J.M. Jr (1996): Environmental Geography. Science, Land Use and Earth Systems.New York: John Wiley.

OLDFIELD, F. 2005: Environmental Change. Key Issues and Alternative Perspectives. Cambridge, CambridgeUniversity Press.

STEFFEN, W. et al 2004: Global Change and the Earth System: A Planet Under Pressure. New York,Springer.

TURNER, B.T.II; Clark,W.C., KATES,R.W., RICHARDS,J.F., MATHEWS,J.T. I MEYER,W.B. (eds) (1990): TheEarth as transformed by human action. Cambridge: Cambridge University Press.

VV. AA. (2003): Encyclopaedia of Global Environmental Change. New York, Wiley (5 volums).

There will also be selected readings that come from journal articles during the course.

Software

Microsoft Office applications