

FIȘA DISCIPLINEI

1. Date despre program

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| 1.1 Instituția de învățământ superior | Universitatea Babeș-Bolyai Cluj-Napoca |
| 1.2 Facultatea | Știința și Ingineria mediului |
| 1.3 Departamentul | Știința Mediului |
| 1.4 Domeniul de studii | Știința mediului |
| 1.5 Ciclul de studii | Master |
| 1.6 Programul de studiu / Calificarea | Gestiunea și protecția mediului |

2. Date despre disciplină

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|--|---------------------------------|---------------|---|------------------------|---|-------------------------|----|
| 2.1 Denumirea disciplinei | Global climate change | | | | | | |
| 2.2 Titularul activităților de curs | Prof. asoc. Dr. Giuseppe Etiope | | | | | | |
| 2.3 Titularul activităților de seminar | Prof. asoc. Dr. Giuseppe Etiope | | | | | | |
| 2.4 Anul de studiu | 1 | 2.5 Semestrul | 1 | 2.6. Tipul de evaluare | C | 2.7 Regimul disciplinei | Ob |

3. Timpul total estimat (ore pe semestru al activităților didactice)

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|--|----|--------------------|----|-----------------------|-----|
| 3.1 Număr de ore pe săptămână | 3 | Din care: 3.2 curs | 2 | 3.3 seminar/laborator | 1 |
| 3.4 Total ore din planul de învățământ | 42 | Din care: 3.5 curs | 28 | 3.6 seminar/laborator | 14 |
| Distribuția fondului de timp: | | | | | ore |
| Studiul după manual, suport de curs, bibliografie și notițe | | | | | 30 |
| Documentare suplimentară în bibliotecă, pe platformele electronice de specialitate și pe teren | | | | | 15 |
| Pregătire seminarii/laboratoare, teme, referate, portofolii și eseuri | | | | | 10 |
| Tutoriat | | | | | 4 |
| Examinări | | | | | 4 |
| Alte activități: | | | | | |
| 3.7 Total ore studiu individual | | 55 | | | |
| 3.8 Total ore pe semestru | | | | | |
| 3.9 Numărul de credite | | 6 | | | |

4. Precondiții (acolo unde este cazul)

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| 4.1 de curriculum | • |
| 4.2 de competențe | • |

5. Condiții (acolo unde este cazul)

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| 5.1 De desfășurare a cursului | • |
| 5.2 De desfășurare a seminarului/laboratorului | • |

6. Competențele specifice acumulate

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|-------------------------|---|
| Competențe profesionale | <ul style="list-style-type: none"> • Understanding the functioning and the variability of the climate system • Understanding the anthropogenic influence on the climate system • Understanding the various current theories on climate change • Action plans for preventing climate change and mitigating its effects |
| Competențe transversale | <ul style="list-style-type: none"> • Aggregation of experimental data into a complex model • Team work for the analysis of complex phenomena |

7. Obiectivele disciplinei (reieșind din grila competențelor acumulate)

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|---------------------------------------|---|
| 7.1 Obiectivul general al disciplinei | <ul style="list-style-type: none"> • Global climate change is a topic intensively debated by the scientific international community, but also by the public at large. The proposed course offers to the students the necessary knowledge to understand how the climate change is pushing, as well as its mechanisms. The arguments supporting the different theories connected to climate change are discussed. The potential effects of climate change on the society, and the adaptation and mitigation actions are assessed. |
| 7.2 Obiectivele specifice | <ul style="list-style-type: none"> • Understanding the climate system and its modifications at a planetary scale • Improving students' capacity to analyze complex systems and to compare various theories based on arguments. |

8. Conținuturi

| 8.1 Curs | Metode de predare | Observații |
|---|---------------------|------------|
| Climate: definitions, variability, sensitivity, transitions, feed-back | Interactive lecture | |
| The climate system and its components | Interactive lecture | |
| The atmosphere: processes and radiations, energy balance | Interactive lecture | |
| The importance of oceans for the climate system | Interactive lecture | |
| The role of the biosphere in the climate change | Interactive lecture | |
| Cryosphere and geosphere, influence on the climate | Interactive lecture | |
| The reasons of climate change – forcing | Interactive lecture | |
| Paleoclimate change, paleoclimatological investigations | Interactive lecture | |
| Natural variability of climate in the geological history | Interactive lecture | |
| Climate change during the industrial era | Interactive lecture | |
| Anthropogenic and natural causes of climate change | Interactive lecture | |
| Future climate change assessment and implications on the natural and social systems | Interactive lecture | |
| Reducing the negative effects of climate change, diminishing the | Interactive lecture | |

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| societal impact | | |
| Future research directions, final messages | Interactive lecture | |
| Bibliografie * * * (2012) Climate Change: Evidence, Impacts, and Choices, Division on Earth and Life Studies; National Research Council, 36 p. * * * (2012) America's Climate Choices, National Research Council, 144 p. * * * (2001) Climate Change Science: An analysis of some key questions. Committee on the Science of Climate Change. National Academy Press. IPCC (2007) Intergovernmental Panel on Climate Change http://www.ipcc.ch/ AR4 * * * (2010) Advancing the Science of Climate Change. National Research Council, 528 p. * * * (2010) Adapting to the Impacts of Climate Change. National Research Council, 292 p. | | |
| 8.2 Seminar | Metode de predare | Observații |
| Climate change tendencies at a european and regional level | Dialogue with the students | |
| Components of the climate system | Dialogue with the students | |
| Assessment of the amplitude of climate change at different scales | Applications solving | |
| Investigating the climate change in the geological past | Dialogue with the students | |
| Causes of climate change | Dialogue with the students | |
| Material loss and ecosystems degradation generated by climate change | Applications solving | |
| Climate change effects – application to a defined region | Individual or team project | |
| Bibliografie IPCC (2013) Intergovernmental Panel on Climate Change http://www.ipcc.ch/ AR5 * * (2001) Climate Change Science: An analysis of some key questions. Committee on the Science of Climate Change. National Academy Press. IPCC (2007) Intergovernmental Panel on Climate Change http://www.ipcc.ch/ AR4 * * * (2010) Advancing the Science of Climate Change. National Research Council, 528 p. * * * (2010) Adapting to the Impacts of Climate Change. National Research Council, 292 p. | | |

9. Coroborarea conținuturilor disciplinei cu așteptările reprezentanților comunității epistemice, asociațiilor profesionale și angajatori reprezentativi din domeniul aferent programului

- Understanding the reasons of climate change
- Competencies in the action plans for mitigating the negative effects of climate change.

10. Evaluare

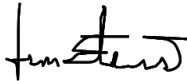
| Tip activitate | 10.1 Criterii de evaluare | 10.2 metode de evaluare | 10.3 Pondere din nota finală |
|------------------------|--|-------------------------|------------------------------|
| 10.4 Curs | Understanding the notions that have been discussed, capacity to use them in practical cases. | colocviu | 30% |
| | Synthesis of the acquired knowledge | colocviu | 30% |
| 10.5 Seminar/laborator | Solving the practical | Verificare pe parcurs | 20% |

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| | themes that have been proposed, and the reliability of the results | | |
| | The capacity to solve concrete applicaions. | Verificare pe parcurs | 20% |
| 10.6 Standard minim de performanță | | | |
| <ul style="list-style-type: none"> • Understanding the main notions that have been discussed • The ability to synthesize data in order to obtain a complete view on the study topics | | | |

Data completării

..25.04.2017

Semnătura titularului de curs



Semnătura titularului de seminar



Data avizării în departament

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Semnătura directorului de departament

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