Curso Académico: 2024/25

141850 - Sustainable health: impact of climate change on human health

Información del programa

Titulación:

14108 - Grado en Enfermería

Curso académico:

2024/25

Asignatura:

141850 - Sustainable health: impact of climate change on human health

Periodo impartición:

Primer semestre y Segundo semestre.

Curso:

1080 - (2019-B) Grado en Enfermería por la Universidad de Deusto

Tipo:

Optativa. Language ENGLISH

Créditos ECTS:

6.0

Justificación

The subject, "Sustainable health: impact of climate change on human health", offers a global exploration of crucial topics relevant to the challenges of our time. It provides an introduction to climate change, fostering an understanding of its significance and urgency across disciplines. Students will gain insights into the detrimental effects of fossil fuels on health, emphasizing the need for sustainable alternatives. The subject also delves into the often-overlooked impact of climate change on mental health, highlighting the interconnectedness between environmental and psychological well-being. Furthermore, from a health economic perspective, students examine the intricate relationship between health, economics, and the environment, recognizing the importance of sustainable development and the potential ramifications on health spending. Finally, the subject equips students with knowledge on public health policy strategies to adapt to and mitigate climate change. By enrolling in this subject, students from any discipline can develop a broad understanding of the multifaceted impact of climate change on human health, educating them to become agents of change in their respective fields and promoting a sustainable future for all.

Prerrequisitos

A minimum English level of B2

Competencias de la asignatura

Competences and evaluation indicators

These competencies and indicators provide a framework for assessing students' knowledge, skills, and abilities in the subject "Sustainable health: impact of climate change on human health". They ensure that students understand the scientific basis of climate change, can analyze and interpret relevant reports, recognize the mental health dimensions, comprehend the economic implications, and propose public health policy strategies to address climate change challenges.

Competency 1 (C1): To understand the fundamentals of climate change and its significance

Indicators (I):

- I 1.1 Describes the causes and mechanisms of climate change.
- I 1.2 Explains the scientific evidence supporting the existence and impacts of climate change.
- I 1.3 Recognizes the interconnectedness between climate change and human health.
- I 1.4 Analyzes the social, economic, and environmental implications of climate change.
- I 1.5 Identifies the relevance of climate change to various disciplines and sectors.

Competency 2 (C2): To understand the Lancet Countdown yearly report on health and climate change

Indicators (I):

- I 2.1 Summarizes the key findings and recommendations of the Lancet Countdown report.
- I 2.2 Evaluates the impact of fossil fuels on human health based on the report's data and analysis.
- I 2.3 Identifies the linkages between specific health outcomes and climate change indicators.
- I 2.4 Critically examines the policy implications of the report for promoting health and reducing climate change.

Competency 3 (C3): To recognize the impact of climate change on human mental health

Indicators:

- I 3.1 Recognizes the potential psychological effects of climate change on individuals and communities.
- I 3.2 Evaluates the relationship between climate change, natural disasters, and mental health issues.

I 3.3 Analyzes the role of resilience and adaptation in addressing climate-induced mental health challenges.

I 3.4 Identifies strategies to mitigate and support mental health concerns related to climate change.

Competency 4 (C4): To understand the health sustainability from the health economic perspective. How the three elements: health, economics and environmental are related over the health progress and its corresponding health expenditure growth

Indicators (I):

I 4:1 Understands the concept of health economics

I 4:2 Understands the key drivers of the health expenditure growth

I 4:3 Understands the concept of health economic evaluation as a tool to make the health sustainable

I 4:4 Incorporates the environmental perspective on the health economic evaluation to make a sustainable health

Competency 5 (C5): To analyze public health policy strategies for climate change adaptation and mitigation

Indicators (I):

I 5.1 Understands Public Health, Health and its environmental determinants and environmental crises concepts.

I 5.2 Identifies the impact on Public Health of extreme temperatures, water quality, air quality and vector-borne diseases

I 5.3 Describes the main elements of policies to adapt mitigate the impact of climate change

I 5.4 Examines current public health policies and strategies related to climate change adaptation and mitigation.

Contenidos

Course content

Unit 1 Fundamentals of climate change and its significance

- What is climate change?
- Contributors and Consequences of Climate Change
- Climate Change Mitigation and Adaptation
- Relevance of climate change to various disciplines and sectors

Unit 2 The Lancet Countdown yearly report on health and climate change

- Scientific basis of climate change and its impact on human health.
- Impact of fossil fuels on health: analysis of the report's findings.
- Relationship between climate change and specific diseases: evidence and trends.
- Addressing health inequalities and climate change.
- Ethical and social implications of the relationship between health and climate change.

- Future perspectives: roadmap for research and action.

Unit 3 Impact of climate change on human mental health

- Links between climate change and mental disorders.
- Understand the concepts of solastalgia and eco-anxiety and how they may contribute negatively to well-being
- List populations of patients who are most vulnerable to adverse mental health impacts from climate change
- Environmental, social and economic determinants of mental health negatively affected by climate change
- Promotion of mental health and well-being in a context of climate change.

Unit 4. Sustainable health. *Fabula o desideratum?*

- Health and economics. *Totum revolutum*
- Towards an unsustainable health. *Fabula acta est*
- Making the health sustainable. *Ad sensum oeconomicum*
- Making a sustainable health. *Ad sensum naturae*

Unit 5. Impact of climate change on Public Health and mitigation policies

- Health and environment, an approach from public health
- Public health in the face of climate change: extreme temperatures, water quality, air quality and vector-borne diseases.
- Policies for adaptation to climate change.
- Strategies to mitigate the impact on health

Videoconferences

- Two videoconferences per week of 1 h long.

Estrategia de enseñanza-aprendizaje, sistema de evaluación y documentación

Learning Methodology

The University of Deusto Learning Model (MAUD) is the learning methodology for each topic. Students' workload is arranged following the 5-step cycle of Deusto's pedagogical model: Experiential context, reflexive observation, conceptualization, active experimentation and evaluation.

Learning methods are varied and include watching videos, reading news stories, completing questionnaires, individual reflection and group discussions.

Course dedication

In accordance with the 6 ECTS assigned, the dedication required of the student to follow the course and fulfill its requirements is 150 hours.

Time dedication per Unit:

- Unit 1 - Fundamentals of climate change and its significance (8.3% of total time, 16.6h)
- Unit 2 - The Lancet Countdown report on health and climate change (8.3% of total time, 16.6h)
- Unit 3 - Impact of climate change on human mental health (8.3% of total time, 16.6h)
- Unit 4 - Sustainable health. *Fabula o desideratum?* (33.3% of total time, 50h)

- Unit 5 - Impact of climate change on Public Health and mitigation policies (33.3% of total time, 50h)

Weekly dedication to the subject:

10 hours per week distributed approximately in this way:

- 6 hours of planned work
- 2 hours of personal study
- 2 hours of attendance and participation in the synchronous sessions by videoconference

Evaluation system

Evaluation of competences

Competences 1, 2, 3, 4 and 5

The student will demonstrate the acquired competences and their indicators by correctly answering the multiple-choice questions and the essay question included in the written examination.

In addition, these competences will also be put into practice especially in the virtual synchronous sessions in which students will have to share in the classroom the results of the practical exercises proposed in each unit. These exercises may involve individual or group work. Examples of such practical exercises are watching and commenting on videos on the subject, creating a presentation on the subject, answering discussion questions, and analyzing case studies.

Assessment of learning

Assessment Procedure of Units 1, 2, 3, 4 and 5:

The assessment procedure outlined below ensures a comprehensive evaluation of students' performance in the course.

- The written examination allows for the assessment of theoretical knowledge.
    - The examination will consist of multiple-choice questions, where students will choose one correct response from the given options.
    - Additionally, a maximum of three open-ended questions will be included.
    - The examination aims to assess students' comprehension, critical thinking, and analytical skills related to the course material.
    - The exams will take place during one of the virtual classes with a maximum duration of 1 hour.
- The continuous assessment approach evaluates students' engagement and active participation in class.
    - Attendance to virtual class sessions will be recorded and considered in the assessment.
    - Active participation in video conference discussions and contributions to the online forum will also be evaluated.
- Practical exercises enhance students' understanding and ability to apply the course material.
    - Students will be assigned practical exercises to be completed within specified deadlines and delivered to the teacher.
    - The completion and quality of the practical exercises will be evaluated to assess students' ability to apply theoretical concepts to real-world scenarios.

Calculation of the final grade

To determine the final grade for this course, three components will be considered: the written examination, continuous evaluation of class work, and practical exercises. Each component will be assigned a score ranging from a minimum of 0 to 10.

Each of the thematic blocks in the course is taught by a different instructor, with a total of three instructors involved. Each instructor will independently grade the work of each student in the course. The final score for each student is the result of averaging the scores given by all three instructors for each thematic block.

Extraordinary call

In the extraordinary call, the student must re-submit and pass those parts of the assignments or the exercises of each topic that are pending. It is reminded that attendance to 75% of the virtual sessions is a requirement to access the assessment.

Documentation

These are books and articles used to deal with the topics of the course. This list is not exhaustive.

- Ching Li, Emma L. Lawrance, Gareth Morgan, Richard Brown, Natalie Greaves, Jacob Krzanowski, Sophie Samuel, Renzo R. Guinto & Gary Belkin (2022) The role of mental health professionals in the climate crisis: an urgent call to action, International Review of Psychiatry, 34:5, 563-570, DOI: 10.1080/09540261.2022.2097005

- European Commission, Directorate-General for Research and Innovation, Group of Chief Scientific Advisors, *Adaptation to health effects of climate change in Europe* – , Publications Office, 2020, https://data.europa.eu/doi/10.2777/869383

- Romanello, Marina et al.(2022) The 2022 report of the *Lancet* Countdown on health and climate change: health at the mercy of fossil fuels. *The Lancet*, Volume 400, Issue 10363, 1619 - 1654. https://doi.org/10.1016/S0140-6736(22)01540-9

- Kovats, Sari, Menne, Bettina, Apfel, Franklin, Racioppi, Francesca & World Health Organization. Regional Office for Europe. (2008). Protecting health in Europe from climate change. World Health Organization. Regional Office for Europe. https://apps.who.int/iris/handle/10665/107262

- Wolf, Tanja, Katrina Lyne, Gerardo Sanchez Martinez, and Vladimir Kendrovski. 2015. "The Health Effects of Climate Change in the WHO European Region" *Climate* 3, no. 4: 901-936. https://doi.org/10.3390/cli3040901
- WHO global strategy on health, environment and climate change: the transformation needed to improve lives and wellbeing sustainably through healthy environments. ISBN: 978 92 4 000037 7 https://www.who.int/publications/i/item/9789240000377

- Compendium of WHO and other UN guidance on health and environment. Geneva: World Health Organization; 2021 (WHO/HEP/ECH/EHD/21.02). Licence: CC BY-NC-SA 3.0 IGO.

- World Health Organization. Regional Office for Europe. (2013). Climate change and health: a tool to estimate health and adaptation costs. World Health Organization. Regional Office for Europe. https://apps.who.int/iris/handle/10665/329517

- Green Paper from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Adapting to climate change in Europe – options for EU action {SEC(2007) 849} /* COM/2007/0354 final */ https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52007DC0354

- World Health Organization. Regional Office for Europe. (2013). Protecting health from climate change: a seven-country initiative. World Health Organization. Regional Office for Europe. https://apps.who.int/iris/handle/10665/350612

- World Health Organization. (2009). Protecting health from climate change : connecting science, policy and people. World Health Organization. https://apps.who.int/iris/handle/10665/44246

- Ebi KL, Otmani Del Barrio M. Lessons Learned on Health Adaptation to Climate Variability and Change: Experiences Across Low- and Middle-Income Countries. Environ Health Perspect. 2017 Jun 20;125(6):065001. doi: 10.1289/EHP405. PMID: 28632491; PMCID: PMC5743455.

- World Health Organization. (2020). WHO guidance for climate resilient and environmentally sustainable health care facilities. World Health Organization. https://apps.who.int/iris/handle/10665/335909.

- Health in national adaptation plans: review. Geneva: World Health Organization; 2021.

- Quality criteria for health national adaptation plans. World Health Organization. https://apps.who.int/iris/handle/10665/339454.

- Sorenson, C., Drummond, M., & Bhuiyan Khan, B. (2013). Medical technology as a key driver of rising health expenditure: disentangling the relationship. *ClinicoEconomics and outcomes research*, 223-234.

- Hensher, M. (2020). Incorporating environmental impacts into the economic evaluation of health care systems: Perspectives from ecological economics. *Resources, Conservation and Recycling*, *154*, 104623.

- Marsh, K., Ganz, M., Nørtoft, E., Lund, N., & Graff-Zivin, J. (2016). Incorporating environmental outcomes into a health economic model. *International Journal of Technology Assessment in Health Care*, *32*(6), 400-406.

- Marsh, K., Ganz, M. L., Hsu, J., Strandberg-Larsen, M., Gonzalez, R. P., & Lund, N. (2016). Expanding health technology assessments to include effects on the environment. *Value in Health*, *19*(2), 249-254.

- de Preux, L., & Rizmie, D. (2018). Beyond financial efficiency to support environmental sustainability in economic evaluations. Future healthcare journal, 5(2), 103.