BS0456: HEALTH & ENVIRONMENT

MODULE LEADER
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OFFICE HOURS
Available by appointment on Mondays & Wednesdays – please email or use this booking link (https://calendly.com/dheeya/ibsdheeya)

MODULE AIMS

- To provide a multi-disciplinary understanding of the complex impact of the environment on individuals' health, and how it is addressed from an **economics** perspective.
- To identify potential environmental contributors from health and healthcare systems
- To understand the challenges in the identification of the environmental effects on health, develop a critical opinion of some scientific evidence, and assess the benefits and limitations of possible solutions.

Knowledge Objectives

To give students an understanding of:

- The environmental challenges affecting health and the healthcare sector;
- The different types of environmental hazards and how they affect health;
- The conceptual framework and models that assess environmental risks, individual exposure, and health impacts, as well as their limitations;
- The possible mitigation measures and how they could be implemented;
- The different policy tools to address pollution, and their possible implications on health and society's wellbeing.

Skill Objectives

Throughout the module students should acquire the ability to identify and implement solutions to support a sustainable and healthy business environment. Specifically, through developing the following skills:

- Explain the differences and interactions between climate change, and global and local threats;
- Distinguish, conceptually, between short- and long-term impacts, as well as direct and indirect exposure;
- Formulate informed opinions on the severity of environmental impacts on health.

Learning Outcomes

On successful completion of the module students will be able:

- To develop a good understanding of environmental sources affecting health;
- To acquire the ability to identify and introduce key elements of sustainable solutions in different contexts.

Teaching Methods

Each session will generally be composed of a lecture and class discussion. We will have a range of guest lecturers. Some lectures will include exercises, group work, quizzes, and student presentations. Students are expected to fully participate in class discussion, and attendance will be monitored.

Course Outline (Topics to be covered over 10 lectures)

1. **Introduction & Admin: Climate Change, Environment, & Health** We will begin with an overview of the module, objectives, and assessments. We will then discuss the evidence of climate change, and its implications - in terms of weather variability, natural hazards, pollution, and their associated health impacts. We will review the main local and global environmental issues. We will discuss the different sources and types of pollutants.

2. **Health National Action Plans**

3. **Impact & Vulnerability Assessments**

4. **The Role of the Built Environment on Health (Dr. Audrey de Nazelle; 28th February)**

5. **Costing Damages & Benefits**

6. **Sustainability in Healthcare: Strategising & Delivering on Decarbonising Healthcare (Julia Farrington, Greener NHS; 7th March)**

7. **Government Interventions**

8. **The European Union's Emissions Trading Scheme (ETS) (Dr. Mirabelle Muuls; 9th March)**

9. **Sustainability in Healthcare: Decarbonising Healthcare, Net Zero & Setting Science-Based Targets (Julia Giannini, Bupa; 14th March)**

10. **Health Co-Benefits of Climate Mitigation Strategies (Dr. Neil Jennings; 16th March)**

Note: The above list is not perfectly chronological

Assessment

- Group Project (40%) – Report Submission (35%) & Peer Marking (5%)
- Exam – Multiple Choice Questions & 2 Open Questions (60%)

There will be a formative discussion of your group project to gather feedback prior to submission. Your project does not need to be completed prior to this. This is not assessed and is only an opportunity for you to meet the assessment criteria. ***Please book your timeslot with me via Calendy for 16/3 or 21/3.***

The exam will cover everything that has been presented during the lectures.

MODULE TEXTBOOKS

Barnett, Vic, Alfred Stein, and K. Feridun Turkman (1999) *Statistics for the Environment*, Volume 4, Statistical Aspects of Health and the Environment, Wiley.

Hansell, A. L., Fortunato, Fecht, Elliot, Ghosh, Beale (2014) *The environment and health atlas for England and Wales,* Oxford : Oxford University .

*** Hutchinson, Emma and Sari Kovats (2017) *Environment, Health And Sustainable Development*. Understanding Public Health, Open University Press.

Lopez, Russell (2011) *The Built Environment and Public Health*, Wiley.

Maantay, Juliana A. and Sara McLafferty (2011) *Geospatial Analysis of Environmental Health*, Springer.

Plant, Jane, Nick Voulvoulis, K. Vala Ragnarsdottir (2012) *Pollutants, Human Health and the Environment: A Risk Based Approach*, Wiley.

Sterner, Olov (2010) *Chemistry, Health and Environment*, 2nd Edition, Wiley.

Zuckerman (2014) *Modern Environments and Human Health: Revisiting the Second Epidemiologic Transition*, Wiley.