UNIVERSITY OF GUYANA

School of Graduate Studies
College of Medical Sciences

COLLEGE OF MEDICAL SCIENCES

MPH 7108

2023/2024

Climate Change, Biodiversity and Health

Lecturer: Dr Karen Gordon-Boyle
Year/Semester: 2025-2026
Duration:
Credits: 3
Contact Hours:
Lectures:
Labs/Tutorials:
Total per semester:
Prerequisites: None

Purpose of Course

Climate Change, Biodiversity and Health is a track specific course that introduces students to the impact of climate change on biodiversity and health to highlight their interrelationship and interdependency.

Educational Objectives

1. To understand the complex nature of human health and the environment.
2. To critically analyze the impacts of climate change on health
3. To understand the importance of biodiversity to health and the negative impacts of climate change on biodiversity.
4. The importance of species, ecosystems, and the interconnectedness of the environment to properly plan for the efficient management, use and preservation of biodiversity.
5. How human health is dependent on ecosystems for elements essential to human health and well-being
6. The significant challenges that climate change poses to human health and biodiversity.

Course Competencies

1. Explain environmental impacts of climate change on health and biodiversity.
2. Apply evidence-based knowledge to climate change, health, and biodiversity issues.
3. Effectively communicate the interrelationship and interdependencies of climate change, health, and biodiversity.

Structure/Teaching Methods

Course content will be delivered through a variety of mechanisms, including lectures, student presentations, guided and small-group discussions and cooperative learning activities.

Teaching Schedule

Week #	Content	Teaching/Learning Strategies
1 (5 hours)	Conventions and the legal framework on Biodiversity and climate change	Lecture, guided discussion
2 (5 hours)	Biodiversity for health research and Traditional Medicine	Lecture, discussion
3 and 4 (10 hours)	Biodiversity and human health linkages: concepts, determinants, drivers of change and approaches to integration	Lecture, group discussion
5 (5 hours)	Freshwater, wetlands biodiversity and human health	Lecture, group discussion
Assessment 1: Long paper (20%)		
6 (5 hours)	Agricultural biodiversity and food security	Lecture, discussion
7 (5 hours)	Biodiversity, air quality and human health	Lecture, discussion
8 and 9 (10 hours)	Infectious disease and their relationship to climate change, biodiversity, and human health	Discussion Lecture, group exercises
10 (5 hours)	Environmental microbial diversity and noncommunicable diseases	Lecture, group exercises
Assessment 2: Long paper (20 %)		
11 and 12 (10 hours)	Influences of biodiversity and green spaces to mental and physical fitness and cultural dimensions of health	Guided discussion
13 (5 hours)	1. Population, consumption, and the demand for resources 2. Integrating health and biodiversity: strategies, tools, and further research	Lecture. Practical exercises.
Final Examinations		

Assessment

Course work (Total 50 %)
Assessment 1 – 20 %
Long Paper that will cover sessions 1-5.
The long paper will allow the student to discuss critical issues relating to the section covered based on a topic provided by the lecturer.

Assessment 2 –20 %
Long Paper that will cover sessions 6-9.
The long paper will allow the student to discuss critical issues relating to the section covered based on a topic provided by the lecturer.

Classroom participation – 10%
Students can obtain a maximum of 5% for participating in discussions, answering questions, attendance, and punctuality.

Final Examinations (Total 50 %)
Will be comprised of one examination that will be 3 hours long. Questions will be essay type.

Grading Scheme
A = 80 – 100%
B = 70 < 80%
C = 60 < 70%
F = < 60%

Readings

Textbooks

1. Friel, S (2019). Climate Change and the People's Health. Oxford University Press
2. Cole, J (2019). Planetary Health: Human Health in an Era of Global Environmental Change
3. Walton, M (2019) One Planet, One Health. Sydney University Press
4. Aktar, R; Palagiano, C (2018). Climate Change and Air Pollution: The Impact on Human Health in Developed and Developing Countries. Springer Publishing
5. Lemery, J; Auerbach, P (2017). Enviromedics: The Impact of Climate Change on Human Health. Rowman and Littlefield
6. World Health Organization and Secretariat of the Convention on Biological Diversity (2015). Connecting Global Priorities: Biodiversity and Human Health A State of Knowledge Review

This course outline was developed using the above-mentioned reference materials