

**Prompt:**

Create a climate change curriculum for US-based medical students including learning objectives, course outline and a curriculum schema. For examples within the curriculum, use the concept of seasonal allergies and how patients in northern states may begin to suffer like patients in southern states because of climate change. Also reference any peer-reviewed literature that supports this type of curriculum

**Response from BING AI:**

Here is a possible climate change curriculum for US-based medical students, focusing on the concept of seasonal allergies and how patients in northern states may begin to suffer like patients in southern states because of climate change.

**Learning objectives:**

- To understand the basic science of climate change and its impacts on human health, especially respiratory health.
- To recognize the signs and symptoms of seasonal allergies and asthma, and how they are affected by climate change.
- To diagnose and treat seasonal allergies and asthma in patients, and provide preventive and educational advice.
- To identify the vulnerable populations and regions that are most at risk of climate change-related respiratory problems.
- To advocate for climate action and health equity at individual, community, and policy levels.

**Course outline:**

- Module 1: Climate change and human health
  - Introduction to the causes and consequences of climate change, such as greenhouse gas emissions, global warming, extreme weather events, air pollution, etc.
  - Overview of the health effects of climate change, such as heat stress, infectious diseases, mental health, malnutrition, etc.
  - Discussion of the co-benefits of climate mitigation and adaptation for human health, such as reducing fossil fuel use, promoting renewable energy, enhancing green spaces, etc.
  - Assessment: Quiz on the basic concepts of climate change and human health.
- Module 2: Seasonal allergies and asthma

- Introduction to the pathophysiology and epidemiology of seasonal allergies and asthma, such as allergens, immune response, inflammation, prevalence, risk factors, etc.
- Overview of the clinical manifestations and complications of seasonal allergies and asthma, such as sneezing, itching, watery eyes, stuffy nose, coughing, wheezing, shortness of breath, etc.
- Discussion of the diagnosis and treatment of seasonal allergies and asthma, such as skin tests, blood tests, spirometry, medications, immunotherapy, etc.
- Assessment: Case study on a patient with seasonal allergies and asthma.
- Module 3: Climate change and seasonal allergies
  - Introduction to the effects of climate change on seasonal allergies and asthma, such as longer pollen seasons, higher pollen counts, more potent allergens, increased air pollution, etc.
  - [Overview of the evidence and projections of climate change-related respiratory problems in the US and globally<sup>1234</sup>](#).
  - [Discussion of the prevention and management of climate change-related seasonal allergies and asthma, such as avoiding exposure to allergens and air pollutants, using air filters and humidifiers<sup>5</sup>, wearing masks<sup>6</sup>, taking medications as prescribed<sup>7</sup>](#), etc.
  - Assessment: Group project on developing a public health campaign to raise awareness and reduce the burden of climate change-related seasonal allergies and asthma in a specific community or region.
- Module 4: Climate justice and health equity
  - [Introduction to the concepts and principles of climate justice and health equity<sup>89</sup>, such as human rights, social determinants of health<sup>10</sup>, environmental justice<sup>11</sup>](#), etc.
  - [Overview of the disparities and challenges in addressing climate change-related respiratory problems among different populations and regions<sup>1213</sup>, such as low-income communities<sup>14</sup>, racial/ethnic minorities<sup>15</sup>, children<sup>16</sup>](#), elderly, rural areas, etc.
  - Discussion of the strategies and opportunities for promoting climate justice and health equity at individual, community, and policy levels, such as reducing greenhouse gas emissions, adapting to climate impacts, enhancing resilience, empowering stakeholders, etc.
  - Assessment: Reflection paper on personal values and actions related to climate justice and health equity.

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## Curriculum schema:

Module	Topic	Subtopics	Learning activities	Assessments
1	Climate change and human health	Causes and consequences of climate change; Health effects of climate change; Co-benefits of climate mitigation and adaptation	Lectures; Videos; Readings; Discussions	Quiz
2	Seasonal allergies and asthma	Pathophysiology and epidemiology of seasonal allergies and asthma; Clinical manifestations and complications of seasonal allergies and asthma; Diagnosis and treatment of seasonal allergies and asthma	Lectures; Videos; Readings; Discussions; Demonstrations	Case study
3	Climate change and seasonal allergies	Effects of climate change on seasonal allergies and asthma; Evidence and projections of climate change-related respiratory problems; Prevention and management of climate change-related seasonal allergies and asthma	Lectures; Videos; Readings; Discussions; Guest speakers	Group project

4	Climate justice and health equity	<p>Concepts and principles of climate justice and health equity; Disparities and challenges in addressing climate change-related respiratory problems; Strategies and opportunities for promoting climate justice and health equity</p>	<p>Lectures; Videos; Readings; Discussions; Field trips</p>	<p>Reflection paper</p>
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Prompt:

Create a clinical curriculum that is focused on the role of climate change and health. This should be delivered during the third and fourth year of US medical school programs and add potential opportunities to travel in order to experience and learn geographical differences that could impact patient health.

Response:

Here is a possible clinical curriculum that is focused on the role of climate change and health. This curriculum is designed to be delivered during the third and fourth year of US medical school programs and to provide opportunities for students to travel and learn about the geographical differences that could impact patient health.

The curriculum consists of four main components:

- A core course on climate change and health, which covers the basic science, epidemiology, and policy aspects of the topic. This course is offered online and can be taken at any time during the third or fourth year. The course includes lectures, readings, quizzes, and assignments that require students to analyze and synthesize data and evidence on climate change and health issues. The course also features guest speakers from various disciplines and sectors who share their perspectives and experiences on climate change and health.
- A series of elective clerkships on climate change and health, which allow students to gain clinical experience in different settings and regions that are affected by climate change. [These clerkships are offered in collaboration with partner institutions in the US and abroad, such as Harvard Medical School<sup>1</sup>, Emory University School of Medicine<sup>2</sup>, Northwestern University<sup>3</sup>, IFMSA<sup>4</sup>](#), etc.

Students can choose from a variety of clerkships, such as:

- Climate change and respiratory health: Students learn about the diagnosis, treatment, and prevention of respiratory diseases that are exacerbated by climate change, such as asthma, allergies, COPD, etc. Students also learn about the environmental and social determinants of respiratory health, such as air pollution, pollen, heat, etc. This clerkship is offered at hospitals and clinics in urban and rural areas in the US or abroad.
- Climate change and infectious diseases: Students learn about the epidemiology, diagnosis, treatment, and prevention of infectious diseases that are influenced by climate change, such as vector-borne diseases, water-borne diseases, zoonotic diseases, etc. Students also learn about the ecological and behavioral factors that affect the transmission and

emergence of infectious diseases, such as temperature, precipitation, habitat loss, migration, etc. This clerkship is offered at hospitals and clinics in tropical and subtropical regions in the US or abroad.

- Climate change and mental health: Students learn about the psychological and psychiatric impacts of climate change on individuals and communities, such as anxiety, depression, PTSD, substance abuse, suicide, etc. Students also learn about the coping strategies and interventions that can help mitigate the mental health effects of climate change, such as psychotherapy, psychosocial support, resilience building, etc. This clerkship is offered at hospitals and clinics in disaster-prone or conflict-affected areas in the US or abroad.
- Climate change and maternal-child health: Students learn about the reproductive and developmental impacts of climate change on women and children, such as infertility, miscarriage, preterm birth, low birth weight, congenital anomalies, etc. Students also learn about the maternal-child health services and programs that can help reduce the adverse outcomes of climate change, such as family planning, prenatal care, immunization, nutrition, etc. This clerkship is offered at hospitals and clinics in low-resource or high-risk areas in the US or abroad.
- A capstone project on climate change and health, which requires students to conduct a research or quality improvement project related to climate change and health in their chosen setting or region. The project can be done individually or in groups, under the supervision of a faculty mentor. The project should address a relevant clinical question or problem using appropriate methods and data sources. The project should also include a dissemination plan that outlines how the findings or recommendations will be communicated to relevant stakeholders or audiences. The project should be completed by the end of the fourth year and presented at a symposium or conference.
- A portfolio on climate change and health, which documents the students' learning outcomes and reflections throughout the curriculum. The portfolio should include a personal statement that describes the students' goals and motivations for pursuing the curriculum; a summary of the core course; a description of each elective clerkship; a report of the capstone project; a collection of artifacts that demonstrate the students' knowledge and skills on climate change and health; and a self-assessment that evaluates the students' strengths and weaknesses on climate change and health competencies. The portfolio should be submitted by the end of the fourth year for review by a faculty committee.

The curriculum aims to prepare students to become competent physicians who can address the challenges and opportunities of climate change and health in their future practice. The curriculum also aims to inspire students to become leaders who can advocate for climate action and health equity at individual, community, and policy levels.