Climate Change and Human Health
EMERGMED-8401
January 2021

Contact information:

Instructor: William Peterson, MD
Email: wpet@med.umich.edu
Student Leads: Emily Johnson, Casey Patnode, Colby Foster, Simona Martin, and Jonathon McBride

Course Description and Learning Objectives
This course will explore the relationship between our planet’s changing climate and human health. Students will receive introduction to the topic of climate change and other threatened planetary boundaries, an understanding of the current and predicted impact on human health, and opportunities for mitigation of and adaptation to these changes. It will consist of didactic lectures, group discussions, activities, and guest speakers. During this course, students will design a project engaging these topics in a healthcare or community setting, create a group presentation focused on the impact climate change will have on their future specialty, and write a narrative piece on an aspect of this topic they find most important.

At the end of this course, the student should be able to:

- Explain the basic science of climate change and discuss the contribution of human activity to global environmental change.
- Describe the mechanisms by which human health is affected by environmental change, for example through changes in disease vectors, exposure to extreme weather, migration, and reduced food security.
- Understand the inequitable distribution of health impacts as a result of climate change, and evaluate strategies to advance environmental justice and equity.
- Recognize the environmental impact of healthcare nationally and globally, and be able to apply best practices to improve environmental sustainability of clinics, hospitals and health systems.
- Understand how to communicate about climate change and its health impacts to patients, colleagues and other health professionals, policy-makers, and the public.
- Articulate the roles and responsibilities of physicians in mitigating and adapting to the impact of climate change on human health.

Course Requirements and Grading
Successful completion of this course requires achieving each of the following items:

- Individual project proposal (due January 29th, 5pm): A written proposal for a project at the intersection of climate change and health that can reasonably be completed before graduation. Proposals should include a background, project objectives, project design, anticipated significance and any relevant citations. Proposals should be 500-800 words in length. If funding
would be necessary or helpful for completion of the proposed project, please include details of expected budget needs. A template for project proposal submission will be provided.

- Examples of relevant projects include conducting a quality improvement project to improve sustainability in a hospital or clinic setting, hosting an educational event for medical students or community members, or an advocacy campaign for specific local, state or national policy.

- **Small group presentation** (*due January 21st*): A presentation using what you’ve learned in the course as well as your own research, to discuss the anticipated impacts of climate change and opportunities to mitigate risk to patients, within your anticipated future specialty. Students will be placed in small groups of 3-4 students based on specialty interest. The presentation should not exceed 20 minutes in length.

- **Narrative piece** (*due January 29th, 5pm*): As part of a workshop during the final week of the course, students will write a narrative or persuasive piece in the form of a op-ed, letter to the editor, or blog post. Length should meet the requirements of the intended medium. As part of submission, students should include their intended outlet (i.e. Dose of Reality blog, JAMA Commentary, Newspaper opinion piece, etc.)

- **Attendance:** Students will also be expected to attend daily schedule discussions and activities, and be prepared for these through given prework in order to facilitate a thoughtful and effective discussion. Please inform the course instructor at the start of the course about any anticipated absences.

**Grading**

- This course will be graded in a satisfactory/fail manner. A satisfactory grade will be achieved through attendance, active participation, and completion of the projects as listed above.

Materials for the course will be available through GoogleDrive at this link: [https://drive.google.com/drive/folders/1HwNdp-BhWcBHAa-FGXMyZB3-56RkP_HK?usp=sharing](https://drive.google.com/drive/folders/1HwNdp-BhWcBHAa-FGXMyZB3-56RkP_HK?usp=sharing)
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<th><strong>Date</strong></th>
<th><strong>Meeting Title</strong></th>
<th><strong>Birth Year</strong></th>
<th><strong>Current Position</strong></th>
<th><strong>Email</strong></th>
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<td>January 3rd</td>
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<td>1990</td>
<td>Director of Research</td>
<td><a href="mailto:director@email.com">director@email.com</a></td>
<td>123-456-7890</td>
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<tr>
<td>January 2nd</td>
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<td>1992</td>
<td>Research Associate</td>
<td><a href="mailto:researchassociate@email.com">researchassociate@email.com</a></td>
<td>987-654-3210</td>
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<td>Senior Research Scientist</td>
<td><a href="mailto:seniorresearchscientist@email.com">seniorresearchscientist@email.com</a></td>
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<td>1993</td>
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<td><a href="mailto:leadresearchengineer@email.com">leadresearchengineer@email.com</a></td>
<td>098-765-4321</td>
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<td><a href="mailto:juniorresearchscientist@email.com">juniorresearchscientist@email.com</a></td>
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**Notes:**
- The January 3rd meeting was held online due to inclement weather.
- The February 1st meeting was delayed by one week due to technical difficulties.
- The January 15th meeting was attended by all members in person.
- The January 18th emergency meeting was conducted via video conference.

**Key:**
- **Date:** Date of the meeting
- **Meeting Title:** Title of the meeting
- **Birth Year:** Year of birth of the meeting participant
- **Current Position:** Position held by the meeting participant
- **Email:** Email address of the meeting participant
- **Phone:** Phone number of the meeting participant