2 courses are proposed:

1. SIO 116 GS: Climate Change and Global Health: Understanding the mechanisms
   Covered Topics: Climate change in our society; Understanding anthropogenic climate change; The direct and indirect links between climate change and health; The impact of climate change on global health: the infectious diseases; The impact of climate change on global health: the extreme weather events

2. SIO 118 GS: Responding to Climate Change: Possible solutions
   Covered Topics: The climate change impacts on society: a matter of injustice?; Mitigation policies: fighting against the climate change phenomena; Adaptation policies: dealing with incompressible climate change impacts; A step-by-step guide to design, implement and evaluate an adaptation policy: the example of heat warning systems; The notion of public health co-benefits of climate change policies: health in all policies

Course Requirements:
This is a five week global seminar that will take place in three different locations in India: Delhi, Kerala (where the students will carry out community work with our partner university), and Dharamsala (where the students will meet with His Holiness the Dalai Lama). There is no prerequisites for these 2 courses. The course participation will be an important component of these courses. The most important component of these courses will be to decode the exchangeable links between our climate and our societies. Students in groups of 4-5 will be assigned special topics that they will be responsible for discussing in specially designated weekly discussion sessions. In addition, for the two last weeks in each course, groups of students will be asked to prepare a short presentation about a topic they will select. Field visits will be eventually organized during the discussions.

Readings:
There is no compulsory reading for these courses, but for curiosity the following readings are recommended:

SYLLABUS

1. Climate Change and Global Health: Understanding the mechanisms
(taught in 3 two-hour lectures/discussions per week with 2 additional hours devoted to field trips, service and discussion)

Week 1. Introduction and preview – Climate change in our society
Climate and society: a long-term relationship between climate/weather extremes and human societies
Environment and health: a bilateral relation
The notion of Ecosystem Services
Climate Change in a “modern” world: debates, denial and skepticism
Accepting a world of uncertainty

Week 2. Understanding anthropogenic climate change
Historical and projected future climate trends around the globe
Understanding the role of our societies on climate change
The greenhouse effect and the usual suspects: the Greenhouse Gases (GHG)
Sources of GHG emissions: global and historical perspectives

Week 3. The direct and indirect links between climate change and health
The environment as a social determinant of health
Land-use change, ecosystem alteration, agriculture development, intensive farming
Population Dynamics changes and Health
The concept of urban health

Week 4. The impact of climate change on global health: the infectious diseases
An introduction to vector-borne/zoonotic diseases
Interactions between urban environment and infectious disease transmission
Taking Dengue and Malaria as examples
The links between Water Sanitation Hygiene and climate change

Week 5. The impact of climate change on global health: the extreme weather events
Extreme weather events and public health: everything is about resilience
Flooding and hurricanes in Haiti and Dominican Republic
Heat waves and their impacts on population health
Air pollution and health: Smog is only the tip of the iceberg
1. Responding to Climate Change: Possible solutions
(taught in 3 two-hour lectures/discussions per week with 2 additional hours devoted to field trips, service and discussion)

Week 1. The climate change impacts on society: a matter of injustice?
The ethics of climate change: who is responsible for what?
The distinction between a population and a sum of individuals
The concept of environmental justice
Introducing the notion of vulnerability in public health

Week 2. Mitigation policies: fighting against the climate change phenomena
Introducing the IPCC and historical regulations and protocols
Options for mitigating climate change: preventing GHG emissions and reducing their concentration in the atmosphere
Introduction to the cap and trade systems for GHG emission allowances

Week 3. Adaptation policies: dealing with incompressible climate change impacts
A balance between adaptation and resilience
Negative and positive consequences of climate change
Adaptation to climate change: “speaking prose without knowing it”? Some examples applied to different sectors and regions
Introducing the Capability Approach in public policies for equity

Week 4. A step-by-step guide to design, implement and evaluate an adaptation policy: the example of heat warning systems
How to prevent the impacts of heat waves on population health?
The example of 2 heat warning systems: one in Montreal, Canada and one in Ahmedabad, India
An introduction to impact evaluation and causal inference
Evaluating the benefits and equity of the Montreal Heat Warning System

Week 5. The notion of public health co-benefits of climate change policies: health in all policies
Advancing the notion of co-benefits of climate change policies
Introduction to Health Impact Assessments
Why walking, being a vegetarian and breathing a clean air are all about climate change