SIO 209, Spring Quarter 2016

Climate Change : Ten Scalable Solutions for Carbon Neutrality and Climate Stability

Lecturer: V. Ramanathan (VR)
Will include guest lecturers from UCSD and other UC Campuses

A 4-Unit Course
Lecture days and Times:
Tuesday and Thursday, 3:30 to 4:50 pm
Vaughan Hall 100

SIO 209 is a four-unit course designed for graduate or qualified senior undergraduate students that will be taught in a hybrid lecture/seminar format. Letter grades will be awarded; students may choose S/U, but they should remember that everyone in the course will be studying material from an unfamiliar discipline. There are no specific background requirements. Enrollment will be through application with a cap of 15 students to ensure in-depth discussions and the seminar format. There will be two lecture/seminars per week, T/TH 3:30-4:50.

Climate change is scientifically incontrovertible. What the world urgently needs now are scalable solutions for bending the curve—flattening the upward trajectory of human-caused greenhouse gas emissions and consequent global climate change. More than 50 researchers and scholars—from a wide range of disciplines across the University of California system—formed a climate solutions group and came together for four months in 2015 to identify these solutions, many of which emerge out of our own research, as well as the research of colleagues around the world. Taken together, these solutions *can* bend the curve of climate change. The course will be taught from the report written by the 50 authors. The summary of the Course material can be downloaded at: http://uc-carbonneutralitysummit2015.ucsd.edu/_files/Bending-the-Curve.pdf : *Bending the Curve: 10 scalable solutions for carbon neutrality and climate stability*. The Ten solutions fall under five clusters:

I. Science Solutions; II. Societal Transformation Solutions; III. Governance Solutions; IV. Market and Regulations Solutions; V. Technology Solutions; and VI: Natural and Managed Ecosystem Solutions.

The lectures will present pragmatic paths for achieving carbon neutrality and climate stability in California, the United States, and the world. This report as well as the course was inspired by California's recent pledge to reduce carbon emissions by 40 percent to 1990 levels by 2030 and by the University of California's pledge to become carbon neutral by 2025. What is taking place in California today is exactly the sort of large-scale demonstration project the planet needs. And this statewide demonstration project is composed of many of the kinds of solutions that can be scaled up around the world.

Students will be expected to review the steps taken by the 10 campuses of the university of California and the State towards carbon neutrality and climate stability. Each of the student has to choose one of these steps and explore its scalability and suitability for a country of their choice. A term paper and a class presentation will be expected. Final grade will be based on class participation, presentation of the project in class and the project report.