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Physicist
Social Activities

Living with climate change

Course Objective:

Climate change is a reality that the present and future generations have to deal with. It has huge implications and impacts on a wide variety of sectors – from lifestyle choices for individuals to policy decisions for international institutions. As the scientific understanding of climate change has evolved, new economic and political realities have emerged. The new policy and market mechanisms on the other hand have made newer demands on the science of climate change. The socioeconomic challenge thrown up by climate change has also had great implications for technological development as well as technological choices.

The course will focus on

1. Understanding climate change, and
2. Understanding the interplay of science, technology, politics and economics in dealing with climate change.

After completing the course, the students will be in a better position to make informed choices at individual, familial, societal as well as professional level.

Module 1: What is climate change {4 hrs}

- Understanding the process, Role of humans
- Watching and discussing ‘An inconvenient truth’

Module 2: Human Contribution to Climate change {4 hrs}

- Link between air pollution and greenhouse effect, greenhouse gases (which, how, sources), pollution that leads to cooling?, terminology (tns of CO₂ equivalent, etc.)

Module 3: Politics of climate change {6 hrs}

- Kyoto protocol, UNFCCC, IPCC, Conference of Parties, etc.

Module 4: Emissions Reductions {6 hrs}

- Basic concepts (baseline, project emissions, project boundary, leakage, etc.), calculation of carbon footprint, methodologies for calculation of emission reductions

Module 5: Carbon market {4 hrs}

- Different mechanisms, key concepts (additionality, renewable/nonrenewable biomass, avoided deforestation Vs. afforestation), modality (PIN, PDD, etc.)

Module 6: Combating climate change {6 hrs}

- Strategies – national, corporate/institutional, individuals, with the help of case studies

Evaluation:

Attendance: 15 sessions x 2 marks = 30

Participation in class: 15 sessions x 1 marks = 15

Assignments: 5 x 10 marks = 50

Outstanding contribution = 5

References:

Websites of UNFCCC, HEDON (Carbon Special Interest Group), etc.

IPCC reports

Fact Sheets on Climate Change

Video films:

- An inconvenient truth
- The global warming swindle