

## Approval: 16<sup>th</sup> Senate Meeting

Course Number	: HS534
Course Name	: Economics of Climate Change
Credit	: 3-0-0-3
Prerequisites	: HS202 or equivalent course
Intended for	: Postgraduate Students, Undergraduate (3 <sup>rd</sup> and 4 <sup>th</sup> year)
Elective or Compulsory	: Discipline Elective for M.A. in Development Studies, elective for the rest
Semester	: Odd/Even

### 1. Preamble:

The problem of climate change is multifaceted and the solution requires plurality of methodology. The objective of this course is to see climate change through the lens of economics. In economics, climate change is conceptualized as a problem of externality, with layers of complexities. The transboundary nature of the pollutants and their long atmospheric lifetime lead to the serious question: how to internalize the externality? That is to say how to share the responsibility of historical emissions and how to mitigate the future emissions? Also, how adaptation strategies should be formulated in order to tackle the climate change induced damage that is inevitable? This course is designed to develop an understanding of how to address these questions based on a Microeconomic framework of analysis. It also focuses on the specific issues that are related to Himalayan region in this regard.

### 2. Modules with lecture hours:

#### **Module 1: Economic foundation (10 Hours)**

- Externality and market failure;
- Public goods, private goods and common property resources;
- Social and private costs and benefits;
- Climate change as a case of ‘transboundary negative externality’; “1.5 degree” climate goal.
- Brief introduction of game theory and its application in climate change.

#### **Module 2: Mitigation policies –theory and practice (12 Hours)**

- Command and control, fiscal policy instruments, market based policy instruments; carbon tax or carbon credit?
- Design of national policies – National Action Plan on Climate Change (NAPCC) in India,
- European Union –Emission Trading Scheme (EU-ETS), United States Cap-and-Trade programme;
- Role of international cooperation: from Kyoto Protocol (Joint Implementation, Clean Development Mechanism, and Emission Trading) to Paris Agreement (Nationally Determined Contribution (NDC)).

#### **Module 3: Climate change adaptation (12 Hours)**

- Defining vulnerability to climate change; role of adaptation;
- Cost and benefit of adaptation;
- Barriers and limits to adaptation.
- Case studies on adaptation in practice in developed and developing countries;

#### **Module 4: Climate change adaptation and mitigation in Himalayan region (8 Hours)**

- Review of National Mission for Sustaining the Himalayan Ecosystem under NAPCC.

- Selected case studies on the impact of climate change, mitigation opportunities and adaptation strategies in the Himalayan region.

**3. Textbooks:**

1. Stern, N. *The Economics of Climate Change: The Stern Review*. Cambridge University Press. 2006.

**4. References:**

1. Relevant section of Assessment Reports from Intergovernmental Panel on Climate Change
2. Relevant documents of United Nations Framework Convention on Climate Change
3. Contemporary articles published in relevant journals