

COURSE ON

# COST BENEFIT ANALYSIS OF ENVIRONMENTAL POLICIES

**DURATION: OCTOBER 30 - NOVEMBER 8, 2017**  
**VENUE: SCHOOL OF INTERNATIONAL STUDIES, JNU**

## OBJECTIVE OF THE COURSE

- Familiarize students with the theory and application of welfare economics to cost benefit analysis
- Provide a framework for evaluating the societal effects of environmental policy and comparing the efficiency of alternative types of environmental policies
- Develop critical thinking skills for accessing trade-offs between the economic, environmental and social dimensions of sustainability

## Teaching Faculty:

**Madhu Khanna**, ACES Distinguished Professor of Environmental Economics, Department of Agricultural and Consumer Economics, University of Illinois

**Sangeeta Bansal**, Professor of Economics, Centre of International Trade and Development, JNU, Delhi



## Who can Attend

- MA, M Phil and PhD Students
- Faculty at Academic Institutes
- Government officers at IES, IAS and Ministry of Environmental, Forests and Climate Change
- Executives, advisors and others interested in environmental policy making and their evaluation

## Registration and Fees

- JNU M.Sc, M.A Students: FREE
- JNU Research Students (M.Phil and Ph.D): Rs. 1000
- JNU Faculty: Rs. 2000
- Other educational Institutions Research Students: Rs. 2000
- Other educational Institutions Faculty: Rs. 4000
- Other Government Institutions: Rs. 10000
- Industry and Private Institutions: Rs. 15000
- Participants from outside India: US\$ 500

Participation is limited to 50.  
Does not include boarding and lodging charges.

## Register at:

<http://www.gian.iitkgp.ac.in/GREGN/index>  
<http://www.jnu.ac.in/GIAN/>

**Course Coordinator: Professor Sangeeta Bansal**  
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*"If you really think the Environment is less important than Economy, try holding your breath while you count your money"*

**-Dr. Guy McPherson**





# OVERVIEW OF THE COURSE

Environmental problems are a manifestation of the failure of markets to price pollution due to the absence of property rights to clean air, water or other environmental resources. Self-interested individuals maximizing their own utility typically have no incentive to internalize the external effects of their consumption and production decisions. Pollution control is expensive and can involve trade-offs between production levels, profits, low cost products and environmental quality. Pollution control also requires technologies that reduce pollution generation by increasing the efficiency with which polluting inputs are used and prevent the generation of pollution or technologies that abate pollution after it is generated. It also requires the establishment of policies by the government that create incentives for consumers and producers to internalize externalities to the optimal level. Assessing the optimal levels of pollution control will depend on the evaluation of the costs of pollution control to firms and the societal willingness to make trade-offs between economic benefits and environmental quality.

This course will cover the underlying theory and techniques of applying welfare economics to examine the benefits and costs of technologies and policies to address environmental externalities. It will start with a discussion of methods to determine the private costs and benefits of production and consumption choices. It will introduce the concepts of non-market valuation, discounting, willingness to pay and opportunity costs and their utilization for societal cost benefit analysis within a welfare economic framework.

We will then apply these concepts and tools to examine the costs and benefits of alternative policies to control pollution, including command and control methods and alternative types of market based instruments. We will use examples of studies in the published literature that shows the application of these methods to analyze the efficiency and effectiveness of specific policy choices in the real world. We will also discuss the applicability of these methods to compare first-best policies and second-best policies, with particular reference to developing countries. Techniques to examine the effects of alternative strategies to control pollution on consumer and producer surplus and the trade-offs between equity and efficiency will be discussed. We will also discuss non-mandatory approaches to environmental protection, including voluntary programs, certification and labeling, and information dissemination that can create market-based incentives for self-regulation of environmental impacts.

Students will apply the concepts learnt in class to real world policy analysis in a team-based setting.

# LECTURE SCHEDULE

## **Day 1: Oct 30, 2017**

Lecture 1: Foundations of Cost-Benefit Analysis

Tutorial 1: Problem solving session: Cost Benefit Analysis Using Spreadsheets

## **Day 2: Oct 31, 2017**

Lecture 2: Methods of Discounting and Choice of Social Discount Rate

Lecture 3: Social Cost-Benefit Analysis

Tutorial 2: Problem solving session: Cost Benefit Analysis Using Spreadsheets: Project ideation and team-building

## **Day 3: Nov 1, 2017**

Lecture 4: Applying Welfare Economics to Environmental Cost Benefit Analysis

Tutorial 3: Discussion of papers

## **Day 4: Nov 2, 2017**

Lecture 5: Evaluating the efficiency of alternative policy instruments: First and Second- best Policies

Tutorial 4: Discussion of papers

## **Day 5: Nov 3, 2017**

Lecture 6: Equity vs. Efficiency: Distributional Implications of Policies

## **Day 6: Nov 6, 2017**

Lecture 7: Conceptual Foundations of Private Provision of Environmental Goods

Tutorial 5: Discussion of papers

## **Day 7: Nov 7, 2017**

Field Trip

## **Day 8: Nov 8, 2017**

Lecture 8: Empirical Analysis of Voluntary Approaches to Environmental Protection

Tutorial 6: Student-led discussion of projects and applications  
Winding up of the course, feedback and discussion on the course, student evaluation.