KU4DSCECO207: ENVIRONMENTAL ECONOMICS

Semester	Course Type	Course Level	Course Code	Credits	Total Hours
IV	DSC-Major	200-299	KU4DSCECO207	4	60

Learning Approach (Hours/ Week)			Marks Distribution			Duration of ESE (Hours)
Lecture	Practical/ Internship	Tutorial	CE	ESE	Total	
4	0	0	30	70	100	2

Course Description:

This course focuses on economic causes of environmental problems. In particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies. Economic implications of environmental policy are also addressed as well as valuation of environmental quality, quantification of environmental damages. Selected topics on international environmental problems are also discussed.

Course Prerequisite: NIL

Course Outcomes:

At the end of the course, the student will be able to;

Cos	Expected Outcome	Learning Domains
CO 1	Understand key theoretical and empirical concepts in environmental economics.	R, U
CO 2	Equip with a comprehensive analytical understanding of environmental policy theory, spanning from externalities to global environmental accords.	A, R
CO 3	Understand and sensitise major issues in environmental valuation and the fundamental features of environmental policy tools	U, A
CO 4	Understand the transboundary environmental problems and demonstrate their critical understanding of environmental policies	R, E U
CO 5	Gain insight into India's environmental policies, including regulation implementation and the roles of government agencies and NGOs in conservation.	E, A, U

****Remember (R), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C)***

Mapping of Course Outcomes to PSOs

COs	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7
CO 1	✓		✓		✓		✓
CO 2	✓				✓	✓	
CO 3	✓	✓		✓	✓		
CO 4	✓	✓			✓	✓	✓
CO 5	✓						✓

COURSE CONTENTS

Contents for Classroom Transaction:

MODULE	UNIT	DESCRIPTION	HOURS 60
1		**ECONOMY AND THE NATURAL ENVIRONMENT**	**12**
	1	Why study Environmental economics? a) Inter linkages between the economy and environment b) First and Second law of thermodynamics and material balance model	3
	2	Micro foundations of Environmental Economics (welfare economics) a) Classification and characterization of natural resources	2
	3	The relationship between economic development and environmental quality. a) Environmental Kuznets curve b) Environmental adjust of national income	4
	4	Components and Indicators of Sustainable Development a) Strong and weak sustainability b) Sustainable development goals	3
2		**MODELLING ENVIRONMENTAL PROBLEMS AND SOLUTIONS**	**10**
	1	Review of market theory and price determination in an environmental context	2
	2	Market failure of pollution using both a public goods model and externality theory	2
	3	Allocation of property right and Coase theorem	2

	4	Economic solutions to environmental problems	4
		a) Modelling a deposit refund system and pollution permit system	
		b) Modelling a deposit refund system and pollution permit system	
3	**VALUATION OF ENVIRONMENTAL GOODS AND SERVICES**		**14**
	1	Theory of environmental valuation and conceptual basis of its methods	4
		a) Compensating Variations and Surplus	
		b) Equivalent Variations and Surplus	
		c) Willingness to pay or accept for improvement or loss of environmental goods and services	
	2	Empirical approaches in environmental valuation	10
		a) Indirect Methods of environmental valuation	
		i)Revealed Preference Methods: Hedonic Pricing	
		ii) Revealed Preference Methods: Household Production Function approach	
		iii)Revealed Preference Methods: Defensive cost, health cost, and travel cost methods	
		b) Direct method of environmental valuation: Stated preference: Contingent valuation method	
4	**ENVIRONMENTAL PROBLEMS AND POLICIES**		**14**
	1	Global Environmental issues	3
		a) Economics of climate change	
		b) Climate change and food security	
	2	International summits on combating climate change	3
		a) UN climate change conference-latest	
	3	International trade and environment	4
		a) Various International Environmental Agreements b) Basic idea about Montreal and Kyoto Protocol and Talks on Climate Change	
	4	India's environmental policies	4
		a) Implementation of environmental regulations and laws in India	
		b) Role of government agencies and non-governmental organizations in environmental conservation	
5	**TEACHER SPECIFIC MODULE**		**10**
	Direction: Study Tour (Maximum of 4 Days) - Integrate Environmental Economics into Classroom Practice		-
	Students may be directed to visit different ecologically important places in Kerala to identify the effects of govt policies on Environmental sustainability.		10

	The hours allocated may be used for individual / group presentations on their experience.	

Essential Readings:

1. Environmental Economics and Management – Theory, Policy and Applications – Scott J Callan and Janet M Thomas
2. Environmental Economics: An Introduction" by Barry C. Field and Martha K. Field
3. Natural Resource and Environmental Economics" by Roger Perman, Yue Ma, Michael Common, and David Maddison
4. Valuing Environmental Changes: Theoretical and Empirical Perspectives" edited by J. Braden and C. Kolstad
5. Climate Change: What Everyone Needs to Know" by Joseph Romm
6. International Environmental Law and Policy" by David Hunter, James Salzman, and Durwood Zaelke
7. Environmental Law and Policy in India" by Ranganath Misra and Shalu Nigam
8. "Environmental Management: Text and Cases" by Anil Kumar De and S. Shivaraman

Reference Distribution:

Module	Unit	Reference No.	Remarks
1	1	Essential readings 1	-
	2	Essential readings 2 & 3	-
	3	Essential readings 1	-
	4	Essential readings 1	-
2	1	Essential readings 1	-
	2	Essential readings 1	-
	3	Essential readings 1	-
	4	Essential readings 1	-
3	1	Essential readings 5	-
	2	Essential readings 5	-
4	1	Essential readings 6	-
	2	Essential readings 6	-
	3	Essential readings 6	-
	4	Essential readings 7 &8	-

Suggested Readings:

1. Hanley N, Shogren J.F. &White B. Environmental Economics in Theory and Practice, Macmillan
2. Kolstad C, Environmental Economics, OUP
3. Roger Perman, Yue Ma, James McGilvray and Michael Common, Natural Resource and Environmental Economics, Pearson Education/Addison Wesley, 3rd edition, 2003.
4. Maureen L. Cropper and Wallace E. Oates, 1992, ―Environmental Economics:

A Survey,‖ Journal of Economic Literature, Volume 30:675-740.
5. The Politics of Climate Change: Environmental Dynamics in International
6. Internet on recent environment agreements

Assessment Rubrics:

Evaluation Type		**Marks**
End Semester Evaluation		**70**
Continuous Evaluation		**30**
a)	Test Paper- 1	6
b)	Test Paper-2	6
c)	Assignment	4
d)	Seminar/Debate	4
e)	Book/ Article Review	-
f)	Viva-Voce	-
g)	Field Report / Study Tour Report	10
Total		**100**