Course title: Resource Economics

Course code: NRE 143	**No. of credits:** 3	**L-T-P distribution:** 30-12-0	**Learning hours:** 42

Pre-requisite course code and title (if any):NRS 141, Elementary Mathematics and Calculus at +2 Level

Faculty: Dr Subir Sen	**Department:** Department of Natural Resources

Course coordinator (s): Dr Subir Sen	**Course instructor (s):** Dr Subir Sen

Contact details:

Course type	**Compulsory**	**Core**	~~**Elective**~~	
Course offered in	**Semester 1**	**Semester 2**	~~**Semester 3**~~	**Other**

Course Description

The course constitutes an elective to be offered to M.Sc. (Natural Resources). It begins by exposing students to basic concepts in optimization and relevant introductory topics in microeconomics. Different categories of natural resources are covered separately with focus on forestry, fishery and exhaustible energy resources. This is followed by discussions on stock pollutants, issues of risk and uncertainty and biodiversity conservation and valuation. The course includes additional modules relating to: (a) the sustainable development concepts, relevant indicators (such as genuine savings) and natural resource accounting and (b) to the economics of property rights regimes (with focus on common property rights). It is expected that the course will help bridge the gap between theoretical models and empirical study of resource allocation and management issues in a real-world context.

Course objectives

Course content

SNo	**Topic**	**L**	**T**	**P**
1.	Basics concepts in static & dynamic optimisation	6	3	
2.	Introduction: Asset markets, issues of discounting, the resource allocation problem, Renewable and non-renewable resources	2	1	
3.	Renewable resources: basic optimal harvest problem; economics of fishery; economics of forestry	9	3	
4.	Non-renewable resources: basic optimal depletion problem; Hotelling's rule; exhaustible energy resources	9	3	
5.	Stock pollutants, risk and uncertainty	4	2	
	Total	**30**	**12**	

Evaluation criteria

- 2 Minor Tests (20% each): 40%
- 1 Major test (end semester): 60%

Learning outcomes

Pedagogical approach

Materials

Required text

1. Conrad J.M. (1999) *Resource Economics*, Cambridge University Press.
2. Hanley N., Shogren J.F. and White B. (1997) *Environmental Economics in Theory and Practice*, Oxford and London, Oxford University Press and Macmillan.
3. Sydsaeter and Hammond, Mathematics for Economics. LPE.

Suggested readings

1. Bromley D.W. (ed). (1995) *The Handbook of Environmental Economics*, Blackwell, Cambridge, Massachusetts.
2. Dasgupta P. (2001) *Human Well-being and the Environment*, New York, Oxford University Press.
3. Dasgupta P.S. and Heal G.M. (1979) *Economic Theory and Exhaustible Resources*, Cambridge, Cambridge University Press
4. Fisher A.C. (1981) *Resource and Environmental Economics, Cambridge*, Cambridge University Press.
5. Kadekodi C.,Singh H.C. and Kadekodi G.K. (Ed) (2004) *Environmental Economics in Practice*, Oxford University Press.
6. Kerr J.M., Marothia D.K., Singh K., Ramasamy C., Bentley W.M.(1997) *Natural Resource Economics: Theory and Applications in India*, Oxford and IBH Company Private Limited.
7. Kneese A.V. and Sweeney J.L. (Eds.) (1985)*Handbook of Natural Resource and Energy Economics*, Amsterdam, Elsevier.
8. Ostrom E. Chap in Sankar U (ed) (2001) *Environmental Economics*, Oxford University Press
9. SydsaeterK. and Hammond P.J. (1995), *Mathematics for Economics*, LPE.
10. Varian H.L. (2003) *Intermediate Microeconomics: A Modern Approach*, East West Press, Sixth Edition.

Case studies
Websites

Journals

1. Agricultural Economics
2. American Journal of Agricultural Economics (AJAE)
3. Development and Change
4. Ecological Economics
5. Energy Economics
6. Environment and Development Economics
7. Environmental and Resource Economics
8. Environmental, Development and Sustainability
9. Indian Journal of Agricultural Economics (IJAE)
10. Interdisciplinary Environmental Review
11. Journal of Environmental Economics and Management
12. Journal of Environmental Planning and Management
13. Journal of Forest Economics

Additional information (if any)

Student responsibilities
Attendance, feedback, discipline, guest faculty etc