

Environmental Studies

Course Code:UEECO0013T

Course Title : Environmental Studies

Semester :III

Credits : 02

Rationale

The Compulsory course on Environmental Studies at Undergraduate level aims to train students to cater to the need for ecological citizenship through developing a strong foundation on the critical linkages between ecology-society-economy.

Course Outline

Contents	No. of Lectures
Unit-I Introduction to Environmental Studies Definition, principles and scope of environmental studies; Multidisciplinary nature of environmental studies; Importance of economics in environmental analysis.	5
Unit-II Ecology and Ecosystem Concept of Ecology and ecosystem, structure and function of ecosystem; Energy flow in an ecosystem; food chain and food web; basic concept of population and community ecology; ecological succession; levels of biological diversity; ecosystem and biodiversity services	5
Unit-III Economic Concepts in Environmental Studies Environmental externalities, Market failure and the environment, Cost-benefit analysis in environmental decision-making, Principles of sustainability; Sustainable development, Green economics	5
Unit-IV Environmental Policies and Practices Overview of Environmental laws in India: Wildlife Protection Act, Forest Conservation Act, Water(Prevention and control of Pollution) Act; Air(Prevention and control of Pollution), Environment Protection Act; International agreements: Montreal Protocol, Kyoto Protocol, and international conferences on environment.	5
Unit V- Human Communities and Environment Global environmental issues: biodiversity loss, climate change, ozone layer depletion, acid rain; Environmental hazards: floods, earthquakes, cyclones, tsunamis, landslides; Chernobyl disaster and Bhopal gas tragedy; Environmental Movements: Bishnois, Chipko, Silent valley, Big dam movements; Environmental education and public awareness	5

Course Outcomes

Upon successful completion of this course, candidates will be able to

- Develop critical thinking for shaping strategies (scientific, social and economic) for environmental protection and conservation of biodiversity, social equity and sustainable development.
- Capability to identify relevant environmental issues, analyse the various underlying causes, evaluate the practices and policies, and develop framework to make informed decisions.
- Develop empathy for various life forms and appreciate the various ecological linkages within the web of life.

Reference Books

8. Asthana, D. K. (2006). Text Book of Environmental Studies. S. Chand Publishing.
9. Basu, M., Xavier, S. (2016). Fundamentals of Environmental Studies, Cambridge University Press,
10. Bharucha, E. (2013). Textbook of Environmental Studies for Undergraduate Courses. University Press.
11. De, A.K., (2006). Environmental Chemistry, 6th Edition, New Age International, New Delhi.
12. Masters, G. M., & Ela, W. P. (1991). Introduction to environmental engineering and science. Englewood Cliffs, NJ: Prentice Hall.
13. Odum, E. P., Odum, H. T., & Andrews, J. (1971). Fundamentals of ecology. Philadelphia: Saunders. Sharma,
14. P. D., & Sharma, P. D. (2005). Ecology and environment. Rastogi Publications.