

St. Xavier's College (Autonomous), Ahmedabad
Syllabus of Semester – II of the following departments under the Faculty of Arts based on
Undergraduate Curriculum Framework - 2024 to be implemented from the Academic Year 2024-25
FACULTY OF ARTS

DEPARTMENT OF ECONOMICS

Course	Title	Content	Hours/week	Credit
SEC EC-SE-221 C	Energy Resource Economics and Sustainability	U-1: Introduction to Energy Economics U-2: Energy Policy and Regulation	2hrs	2

SEC EC-SE-221 C: Energy Resource Economics and Sustainability

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credit Distribution of The Course (Total Credit-04)			Eligibility Criteria	Prerequisite(s) of the Course (if any)
	Lecture	Practical	Experiential Learning		
Energy Resource Economics and Sustainability EC-SE-221 C	2	0	2	10 + 2 from a recognized board in any stream	

I. Learning Objectives (LO):

LO-1	Understand the economic principles behind energy markets.
LO-2	Evaluate the role of renewable and non-renewable energy resources.
LO-3	Apply cost-benefit and lifecycle analysis to energy decisions.
LO-4	Analyze policies aimed at improving sustainability and reducing carbon emissions and, Interpret current energy market trends and policy challenges.

II. Course Outcomes (CO):

CO-1	Accepting the importance of green energy and Green accounting
CO-2	Sensitized towards saving resources
CO-3	Develop sensitivity adopting more environmentally friendly goods
CO-4	Learn the use of cost-benefit models in the context of environmental economics

Unit 1: Introduction to Energy Economics

(15L)

- Energy as an economic input
- Overview of global and national energy consumption trends
- Energy demand and supply fundamentals
- Non-Renewable Energy Resources Renewable Energy Resources:
- Economics of fossil fuels (coal, oil, natural gas)
- Environmental and social costs
- Solar, wind, hydro, geothermal, and bioenergy

Unit 2: Energy Policy and Regulation

(15L)

- Taxes, subsidies, and incentives
- Cap-and-trade, carbon pricing, and emissions regulation
- Global agreements (e.g., Paris Agreement) Sustainability and Energy Transitions
- Sustainable development and energy justice
- Energy efficiency and technological change
- Transition pathways and barriers

III. Teaching Methodology: Apart from the conventional blackboard teaching, other modes of teaching that will be adopted are power points, group discussions, quizzes, class tests. Experiential learning, analysis and discussions will form an important part of studying this paper.

References:

- 1) Energy Economics by Bhattacharya
- 2) TERI data Reports
- 3) Renewable Energy in India- Economics and Market Dynamics by Promod Deo, Shushant Chatterjee.