SUBJECT TITLE: Environmental and Resource Economics (242209)
COURSE TEACHER: Dr. Nahida Afroz (T-06) & Md. Alhaj Uddin (T-9)

Chapter No & Chapter Title.	Number of Classes with Class Title	Learning Outcomes At the end of the class the students would be able to
1. **The Evolution of Environmental and Resource Economics (T-9).**	1. Documentary	1. Relate real world connection.
	2. Economic Analysis of Natural Resources.	1. Explain the core principles of economic analysis as applied to natural resource and environmental issues. 2. Differentiate between various economic paradigms (e.g., neoclassical, ecological economics) and their implications for environmental policy and natural resource management.
	3. Resource allocation and 4. environmental protection.	1. Identify and evaluate the fundamental features of economic approaches to resource allocation and environmental protection. 2. Analyze how economic incentives and market mechanisms can both positively and negatively impact environmental sustainability.
	5. Support decision-making processes.	1. Apply cost-benefit analysis to environmental and natural resource issues to support decision-making processes. 2. Assess the role of property rights, externalities, and public goods in the economic analysis of environmental problems.
	6. Natural Resource and Environmental Issues.	1. Compare and contrast market-based and regulatory approaches to address environmental and resource challenges. 2. Evaluate the strengths and limitations of economic models in capturing the complexity of ecological systems and intergenerational equity.
2. **The Sustainable Economy (T-06)**	7. Sustainability.	1. Define sustainable development 2. Define the concept of sustainability 3. Explain the circular flow of sustainability and environment 4. Explain the principles of sustainable development 5. Explain the characteristics of sustainable development.

	8. Components of Sustainable Development.	1. Explain the three components of sustainable development 2. Analyze the sustainable consumption and production 3. Analyze the ecological footprint and ecological rucksack.
	9. Weak and Strong Sustainably and Rules for Sustainability.	1. Explain the relation between natural capital and sustainability 2. Explain weak and strong sustainably 3. Analyze green economy 4. Explain the rules for sustainability
	10. Measuring Sustainability.	1. Explain the safe minimum standard approach. 2. Analyze the sustainable development goals. 3. Explain the sustainable development index.
	11. Sustainable development in Bangladesh.	1. Identify the importance of sustainable development in Bangladesh. 2. Explain the obstacles in the way of sustainable development in Bangladesh 3. Analyze the ways to remove the obstacles in the way of sustainable development in Bangladesh. 4. Explain the steps taken by Bangladesh for sustainable development.
3. **Ethics and Environment (T-9)**	12. Ethical Foundations for Environmental Economics.	1. Explain the ethical foundations that underpin environmental economics, including concepts such as intergenerational equity and sustainability. 2. Analyze the ethical implications of economic decisions affecting the environment and natural resources.
	13. Rationale and Principles of Discounting Environmental Value.	1. Describe the rationale for discounting future environmental values in economic analysis. 2. Apply key discounting principles to evaluate long-term environmental projects and policies.
	14. Critique of Discounting Methods and Principles.	1. Assess the limitations and ethical concerns associated with traditional discounting methods in environmental economics. 2. Compare alternative discounting approaches (e.g., declining discount rates, social discounting) and evaluate their suitability for addressing long-term environmental issues.
	15. Basic Properties of Good.	1. Identify the basic properties of good. 2. Differentiate between public goods and private goods.

4. The Efficient and Optimal use of Environmental Resources (T-06).		3. Explain the property rights of public good and private good.
	16. Coase Theorem.	1. Identify the concept of Coase Theorem. 2. Analyze the Coase Theorem. 3. Explain the significance of Coase Theorem.
	17. Market Equilibrium	1. Identify common property resources and environmental resources. 2. Explain the market equilibrium. 3. Explain analytically the price determination. 4. Explain the concept of efficiency issues. 5. Explain the efficiency in the competitive market.
	18. Pareto Optimality.	1. Define the concept of pareto optimality 2. Identify the assumptions of Pareto optimality 3. Explain the marginal conditions of Pareto Optimality.
	19. Perfect Competition and Pareto optimality.	1. Identify the marginal condition of pareto optimality in case of consumption. 2. Identify the marginal condition of pareto optimality in case of production 3. Identify the conditions of aggregate optimality.
	20. The Compensation Criterion of Welfare and Market Failure.	1. Define the Compensation Criterion of welfare. 2. Explain the Kaldor-Hicks Criterion. 3. Explain market failure. 4. Explain Environmental resources and Markets.
	21. Externality.	1. Define externality. 2. Identify externalities in the case of consumption and production. 3. Explain the types and causes of externalities. 4. Analyze the consequences of externalities. 5. Analyze how externalities influence market failure. 6. Explain how government intervention helps to remove the
5. Theory of Efficient and Optimum Use of	22. Renewable and non-renewable natural resources.	1. Explain the fundamental principles governing the sustainability and economic value of renewable and non-renewable natural resources.

Renewable and Non-Renewable Resources (T-9)		2. Distinguish between renewable and non-renewable resources and analyze their unique economic and environmental characteristics.
	23. Models of resource extraction.	1. Apply models of resource extraction, such as the Hotelling rule, to evaluate the optimal use of non-renewable resources over time.
		2. Assess the role of renewable resources in sustainable economic development and environmental protection.
	24. Models of Renewable and non-renewable natural Resources.	1. Evaluate the economic impacts of resource depletion and the long-term management strategies for both renewable and non-renewable resources.
		2. Apply basic dynamic models to study the intertemporal allocation of renewable resources, considering factors like growth, conservation, and regeneration rates.
6. **The Economics of Pollution (T-06)**	25. The Economics of Pollution.	1. Define environmental pollution. 2. Identify the relation between population and environment. 3. Explain the impact of population on environment.
	26. Sources and effects of Pollution.	1. Define pollutants 2. 2.Identify the sources of pollutants. 3. Identify the types of pollution 4. Explain the effects of population through different channels of environment.
	27. Pollution scenario in Bangladesh.	1. Identify the current condition of pollution in Bangladesh. 2. Analyze the doings of Bangladesh to control environmental pollution 3. Analyze the pollution control policy in Bangladesh. 4. Analyze the rationality of government control policy in Bangladesh.
	28. Pollution occurring process and optimal quantity of pollution.	1. Identify the pollution occurring process. 2. Define stock pollution and flow pollution. 3. 3.Derive the optimal quantity of pollution. 4. Explain the Equi-marginal principle of pollution.
	29. Pollution liability and pollution fee.	1. Define pollution fee. 2. Identify marketable pollution permits. 3. Analyze the advantages of economic Incentives.

		4. Analyze the disadvantages of economic Incentives.
		5. Analyze the implications for growth and equity
7. Valuing the Environment (T-9)	30. Environmental demand theory.	1. Explain the principles of environmental demand theory and how they relate to consumer preferences for environmental goods and services.
		2. Identify and describe the components of Total Economic Value (TEV), including use and non-use values, in the context of environmental resources.
	31. Benefits of improving an environmental amenity.	1. Evaluate the economic benefits of improving or preserving environmental amenities using appropriate valuation techniques.
		2. Apply the productivity loss method to estimate the economic cost of environmental degradation on labor and output.
	32. Environmental risks and hazards.	1. Explain the defensive and mitigating behavior methods to assess individual and societal responses to environmental risks and hazards.
		2. Implement travel cost and hedonic pricing methods to derive the implicit value of environmental goods based on observed market behavior.
	33. Valuation and Policy Relevance.	1. Design and interpret contingent valuation surveys to estimate willingness to pay for environmental improvements or conservation.
		2. Assess the relevance and application of environmental valuation methods in policy-making and environmental management decisions.