



**MANNAR THIRUMALAI NAICKER COLLEGE (AUTONOMOUS)**  
**ENVIRONMENTAL STUDIES**  
 (For those who joined in 2021-2022 and after)

<b>Course Name</b>	<b>ENVIRONMENTAL STUDIES</b>				
<b>Course Code</b>	<b>21UEVG11</b>	<b>L</b>	<b>P</b>	<b>C</b>	
<b>Category</b>	<b>Mandatory</b>	2	-	2	
<b>Nature of course:</b>	EMPLOYABILITY	SKILL ORIENTED	✓	ENTREPRENEURSHIP	
<b>Course Objectives:</b>					
The objective of the course is					
<ul style="list-style-type: none"> <li>• To make students learn the structure and components of environment.</li> <li>• To envision the truth and the reality of nature around us.</li> <li>• To make students realize the interrelationships between mankind and environment.</li> <li>• To make learners outline the nature of pollutants and their effects.</li> <li>• To make students helpful in Disaster management.</li> </ul>					
<b>Unit: I</b>	<b>Earth, Environment and Natural Resources</b>				<b>06</b>
Environment - Components of Environment – Types of Environment- Environmental segments- Interference of man with the Environment. Need for Environmental Education. Earth – Formation and Evolution of Earth– Structure of Earth and its components – Atmosphere, Lithosphere, Hydrosphere and Biosphere.					
Renewable Resources and Non-Renewable Resources. Natural Resources and Associated Problems. Use and Exploitation of Forest, Water, Mineral, Food, Land and Energy Resources.					
<b>Unit: II</b>	<b>Ecology and Ecosystems</b>				<b>06</b>
Ecology – definition – Scope – Objectives – Subdivisions of Ecology. Ecosystem - Concept - Structure - Functions – Energy Flow – Food Chain and Food Web – Examples of Ecosystems (Forest, Grassland, Desert, Aquatic).					
<b>Unit: III</b>	<b>Biodiversity</b>				<b>06</b>
Definition – Biodiversity at Global, National and Local Level. Values of Biodiversity – Threats to Biodiversity – Conservation of Biodiversity. Biogeographical Distribution – Hotspots of Indian Biodiversity – National Biodiversity Conservation Board and Its functions. Endangered and Endemic Species of India – RET species					
<b>Unit: IV</b>	<b>Pollution Issues:</b>				<b>06</b>
Definition – Causes – Measurement, Mitigation and Management (3M) of Air, Water, Soil, Marine, Noise, Thermal and Nuclear Pollutions. Global Warming and Ozone Layer Depletion. Future plans of Global Environmental Protection Organisations.					
<b>Unit: V</b>	<b>Sustainable Development &amp; Disaster Management</b>				<b>06</b>
Key aspects of Sustainable Development – Strategies for Sustainable Development - Agriculture – Organic farming – Irrigation – Water Harvesting – Water Recycling – Cyber Waste and Management; Disaster Management: Meaning – Types of Disasters - Flood and Drought – Earth quake and Tsunami – Landslides and Avalanches – Cyclones and Hurricanes – Preventions and Consequences. Management of Disasters.					
<b>Total Lecture Hours</b>					<b>30 Hrs</b>
<b>Books for Study:</b>					

1. Study Material for **Environmental Studies**, Mannar Thirumalai Naicker College, Pasumalai, Madurai – 625 004.

**Books for References:**

1. Study Material for **Environmental Studies**, Publications Division, Madurai Kamaraj University, Madurai – 625 021.
2. R.C. Sharma and Gurbir Sangha, **Environmental Studies**, Kalyani Publishers, 1, Mahalakshmi Street, T.Nagar, Chennai – 600 017.
3. Radha, **Environmental Studies for Undergraduate Courses of all Branches of Higher Education, (Based on UGC Syllabus)**, Prasanna Publishers & Distributors, Old No. 20, Krishnappa Street, (Near Santhosh Mahal), Chepak, Chennai – 600 005.
4. S.N.Tripathy and Sunakar Panda, **Fundamentals of Environmental Studies**, Vrinda Publications (P) Ltd. B-5, Ashish Complex, (opp. To Ahicon Public School), MayurVihar, Phase-1, Delhi– 110 091.
5. G.Rajah, **Environmental Studies for All UG Courses, (Based on UGC Syllabus)**, Margham Publications, 24, Rameswaram Road, T.Nagar, Chennai – 600 017.

**Web Resources:**

<https://nptel.ac.in/courses/120/108/120108004/>

<http://www.nptelvideos.in/2012/12/fundamentals-of-environmental-pollution.html>

<b>Course Outcomes</b>		<b>K Level</b>
After completing the course the student will be able to		
<b>CO1:</b>	Mention and outline the structure and components of environment	<b>K2</b>
<b>CO2:</b>	Compare different ecosystems.	<b>K1</b>
<b>CO3:</b>	classify innumerable types of species on earth	<b>K2</b>
<b>CO4:</b>	Identify the causes for various climatic changes occurring due to pollution	<b>K3</b>
<b>CO5:</b>	Describe the environmental impacts of natural and manmade disasters and Develop sustainable strategies to protect the environment.	<b>K4</b>

**CO & PO Mapping:**

<b>COS</b>	<b>PO 1</b>	<b>PO 2</b>	<b>PO 3</b>	<b>PO 4</b>	<b>PO 5</b>	<b>PO6</b>
<b>CO 1</b>	3	1	-	1	-	2
<b>CO 2</b>	1	3	1	1	1	-
<b>CO 3</b>	3	2	-	2	-	1
<b>CO 4</b>	2	2	2	-	1	-
<b>CO 5</b>	2	1	2	1	1	1

\*3 – Advanced Application; 2 – Intermediate Development; 1 - Introductory Level

**LESSON PLAN**

<b>Unit</b>	<b>Course Name</b>	<b>Hrs</b>	<b>Pedagogy</b>
<b>I</b>	Environment – Meaning – Definition - Components of Environment – Types of Environment. Interference of man with the Environment. Need for Environmental Education. Earth – Formation and Evolution of Earth– Structure of Earth and its components – Atmosphere, Lithosphere, Hydrosphere and Biosphere. Renewable Resources and Non-Renewable Resources. Natural Resources and Associated Problems. Use and Exploitation of Forest, Water, Mineral, Food, Land and Energy Resources.	<b>6</b>	<b>Ppt, Discussions</b>
<b>II</b>	Ecology – Meaning - Definition – Scope – Objectives – Subdivisions of Ecology. Concept - Structure - Functions – Energy Flow – Food Chain and Food Web – Examples of Ecosystems (Forest, Grassland, Desert, Aquatic).	<b>6</b>	<b>Ppt, Discussions</b>
<b>III</b>	Definition – Biodiversity at Global, National and Local Level. Values of Biodiversity – Threats to Biodiversity – Conservation of Biodiversity. Biogeographical Distribution – Hotspots of Indian Biodiversity – National Biodiversity Conservation Board and Its functions. Endangered and Endemic Species of India	<b>6</b>	<b>Ppt, Discussions</b>
<b>IV</b>	Definition – Causes – Effects and Control Measures of Air, Water, Soil, Marine, Noise, Thermal and Nuclear Pollutions. Global Warming and Ozone Layer Depletion. Future plans of Global Environmental Protection Organisations	<b>6</b>	<b>Assignments/ seminars</b>
<b>V</b>	Key aspects of Sustainable Development – Strategies for Sustainable Development - Agriculture – Organic farming – Irrigation – Water Harvesting – Water Recycling – Cyber Waste and Management; Disaster Management: Meaning – Types of Disasters - Flood and Drought – Earth quake and Tsunami – Landslides and Avalanches – Cyclones and Hurricanes – Preventions and Consequences. Management of Disasters.	<b>6</b>	<b>Ppt, Discussions</b>

Course Designed by: **Ms. N. Lakshmi Kruthika**

Assistant Professor of Chemistry

Mannar Thirumalai Naicker College