

NATIONAL EDUCATION POLICY-2020

FUUGP REGULATIONS-2022

**B.A/B.COM/BBA/S.SC/SCA 4 –YEAR UNDERGRADUATE PROGRAM 9FYUGP0 WITH
SINGLE MAJOR UNDER THE NEW CURRICULUM AND CREDIT FRAMEWOK, 2022**

VALUE ADDED COURSES (VAC)

ENVIROMENTAL EDUCATION (EE)

UNIVERSITY OF NORTH BENGAL

RAJA RAMMOHUNPUR, P.O.-N.B.U; DISTRICT-DARJEELING, PIN-734013, WEST BENGAL,
INDIA

UNDERGRADUATE BOARD OF STUDIES

VALUE ADDED COURSES (VAC)

ENVIROMENTAL EDUCATION

Paper Code: ENVEVAC001

Prof. (Dr.) Monoranjan Chowdhury, Professor, Department of Botany, NBU [Chairman]

Dr. Arnab Sen, Professor, Department of Botany, NBU [Member]

Dr. Snehasish Saha, Asst. Professor, Department of Geography & Applied Geography, NBU [Member]

Mrs. Meeta Bala, Asst. Professor, KGT Mahavidyalaya [Member]

**Dr. Palas Samanta, Assistant Professor, Dept. of Environmental Science, Sukanta Mahavidyalaya
[Member]**

Dr. Ranjan Sarkar, Principal, Siliguri College of Commerce [Member]

ENVIROMENTAL EDUCATION [EE]		
PROGRAM- UNDERGRADUATE	YEAR-2024-25	SEMESTER- I (BA/B.Sc/B.Com/BBA/BCA - MAJOR) SEMESTER-IV (MDC)
Course component- <i>Value Added Course (VAC)</i>		
Effective Year- 2024-25		
Course code- ENVEVSE001	Course- ENVIROMENTAL EDUCATION	
<p>Through the process of environmental education, under-graduate student under the colleges of this University can learn about the detail information about the global Ecosystems and environmental issues and engage themselves in problem-solving activities, and take steps to protect the environment in their localities. As a result, students are better able to understand environmental challenges and make judgments that are well-informed and moral.</p> <p>To aid in achieving these aims, the following five related objectives have been suggested:</p> <p>Awareness: Helping individuals and social groups become more sensitive to and aware of the problems that the environment as a whole and the problems that go along with it.</p> <p>Knowledge: Enabling individuals and social groups to learn a variety of facts and develop a fundamental grasp of nature, its issues, and issues related to those issues.</p> <p>Attitude: Assisting social organizations and people in developing an attitude towards the environment that will inspire them to actively contribute to its development and protection.</p> <p>Skills: Developing the abilities of social groups and individuals to recognize and address environmental issues.</p> <p>Participation: Give individuals and social groups the chance to join in efforts to address environmental issues at all levels.</p> <p>Course outcomes:</p> <p>The mission of the course on Human Values and Environmental Studies is to create morally articulate solutions to be truthful and just and to become responsible towards humanity. The course seeks to establish a continuous interest in the learners to improve their thought process with intent to develop a new generation of responsible citizens capable of addressing complex challenges faced by the society due to disruptions in human interactions effecting human values.</p>		

Students at the undergraduate degree level will be empowered by the course through the following outcomes:

- To foster knowledge and comprehension of the environment and its various elements.
- To acquire comprehensive understanding of the natural resources and ecosystem services that support life and regulate the economy.
- To develop practical knowledge and critical thinking skills for shaping scientific, social, legal, administrative, and economic solutions/strategies for safeguarding environment, biodiversity, natural resources, etc., for fulfilling the sustainable development goals.
- To acquire knowledge as well as develop attitudes and inclinations for resolving present environmental concerns and challenges at the national and international levels.
- To adopt sustainability practices in daily life and industrial sectors to safeguard our Mother Earth.

Core compulsory		Total Credits-04
MAX. Marks. 80		Credit distribution: Theory-Marks-60 (MCQ)-Credit-3 Field work/Projects, Internal Assessment&Attendance - Marks-10+5+5 –Credit-1
Lectures-80 [Lectures-60 +Tutorials-20]		Mandatory: Mid-semester test & Field work report preparation
Total No. of Lectures-Tutorials-Practical/report (in hours per week):		
Units	Topics	No. of Lectures
Unit-1	<u>Environmental education and sustainable development</u> Definition and objectives of Environmental education; Levels and significance of Environmental Education. Sustainable Development- Definition; Sustainable Development Goals (SDGs)-targets and indicators, challenges and strategies for SDGs.	L-6
Unit-2	<u>NaturalResources</u> Classification of natural resources- biotic and abiotic, renewable and non-renewable. Biotic resources: Major type of biotic resources- forests, grasslands, wetlands, wildlife and aquatic (fresh water and marine); Microbes as a resource; Status and challenges. Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people. Water resources: Fresh and marine water resources; Availability and use	L-9

	<p>of water resources; Environmental impact of over-exploitation, issues and challenges; Water scarcity and stress; Conflicts over water.</p> <p>Soil and mineral resources: Important minerals; Mineral exploitation; Environmental problems due to extraction of minerals and use; Soil as a resource and its degradation.</p>	
Unit-3	<p><u>Ecosystems and ecosystem services:</u></p> <p>Concept of an ecosystem- Structure and function of an ecosystem. Energy flow in the ecosystem. Ecological succession. Food chains, food webs and ecological pyramids.</p> <p>Major ecosystem types in India and their basic characteristics- forests, wetlands, grasslands, agriculture, coastal and marine; Ecosystem services- classification and their significance.</p>	L-9
Unit-4	<p><u>Biodiversity and its conservation</u></p> <p>Definition, types of biodiversity. Biodiversity Hot-spots. Bio-geographical classification of India. India as a mega-diversity nation</p> <p>Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values</p> <p>Threats to biodiversity: Land use and land cover change; Commercial exploitation of species; Invasive species; Fire, disasters and climate change; man-wildlife conflicts.</p> <p>Conservation of biodiversity: <i>in-situ</i> and <i>ex-situ</i> conservation of biodiversity. National and International Instruments for biodiversity conservation. Endangered and endemic species of India</p>	L-9
Unit-5	<p><u>Environmental Pollution and management</u></p> <p>Definition of pollution; Point sources and non-point sources of pollution.</p> <p>Air pollution: Sources of air pollution; Primary and secondary pollutants; Criteria pollutants- carbon monoxide, lead, nitrogen oxides, ground-level ozone, particulate matter and sulphur dioxide; Indoor air pollution; Adverse health impacts of air pollutants; Air pollution control. National Ambient Air Quality Standards. AQI.</p> <p>Water pollution: Sources of water pollution; River, lake and marine pollution, groundwater pollution; Water quality parameters and standards; adverse health impacts of water pollution on human and aquatic life. Water pollution control.</p> <p>Soil pollution and solid waste: Soil pollutants and their sources; Solid and hazardous waste; Impact on human health, Solid waste Management</p> <p>Noise pollution: Definition of noise; Unit of measurement of noise pollution; Sources of noise pollution; Noise standards; adverse impacts of noise on human health. Abatement of noise pollution.</p> <p>Thermal and Radioactive pollution: Sources and impact on human health and ecosystems.</p> <p>Role of an individual in prevention of pollution. Pollution case studies.</p>	L-12

Unit-6	<p><u>Social Issues and the Environment</u> Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies. Disaster management: floods, earthquake, cyclone and landslides. Water conservation, rain water harvesting, watershed management Population explosion and environment Human Rights and environment. Role of women and environment. Role of Information Technology in Environment and human health. Environmental Movements</p>	L-8
Unit-7	<p><u>Environmental Treaties and Legislation</u></p> <p>Major International Environmental Agreements: Convention on Biological Diversity (CBD), Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES); Ramsar Convention on Wetlands of International Importance; United Nations Convention to Combat Desertification (UNCCD); Vienna Convention for the Protection of the Ozone Layer; Montreal Protocol on Substances that Deplete the Ozone Layer, United Nations Framework Convention on Climate Change (UNFCCC); Kyoto Protocol; Paris Agreement; India's status as a party to major conventions.</p> <p>Major Indian Environmental Legislation: The Wild Life (Protection) Act, 1972; The Water (Prevention and Control of Pollution) Act, 1974; The Forest (Conservation) Act, 1980; The Air (Prevention and Control of Pollution) Act, 1981; The Environment (Protection) Act, 1986; The Biological Diversity Act, 2002; Noise Pollution (Regulation and Control) Rules, 2000; Ramsar sites; Biosphere reserves; Protected Areas; National Green Tribunal; Some landmark Supreme Court judgments.</p> <p>Major International organizations and initiatives: United Nations Environment Programme (UNEP), International Union for Conservation of Nature (IUCN), World Commission on Environment and Development (WCED), United Nations Educational, Scientific and Cultural Organization (UNESCO), Intergovernmental Panel on Climate Change (IPCC), and Man and the Biosphere (MAB) programme.</p>	L-7
<p>Field Work/ Project</p> <p>Full Marks – 10</p>	<p><u>Field work</u></p> <ul style="list-style-type: none"> • Submission of individual/group report on any of the following activity focusing environmental conservation (Any One). • Plantation of one tree sapling (indigenous or fruit species) at home premises/in college campus/adopted village/community. Supervise continuously and record the growth pattern. Submit initial and final plant condition with relevant details and future benefits of the tree (Geo-tagged photos etc.) 	L-20

	<ul style="list-style-type: none">• <u>Cleaning and restoration of a nearby ponds/ river/water body. Supervise and clean periodically and record the quantity and quality of solid wastes. Submit initial and final water-body condition with relevant details (Geo-tagged photos etc.).</u>• Cleaning and restoration of a nearby picnic spot/public place. Supervise and clean periodically and record the quantity and quality of solid wastes. Submit initial and final status of the place with relevant details (Geo-tagged photos etc.)• Three Awareness campaign on environmental issues (safe solid waste disposal, communicable diseases, safe drinking water, tree plantation, vaccination, etc.) in nearby locality/adopted villages. Submit detailed report of the campaign with relevant details like no. of person participated, feedback and outcomes of the campaigns (Geo-tagged photos etc.)	
--	---	--

Signature of Chairman

UGBoS, ENVS