Vidyasagar Metropolitan College
Department of Environmental Studies

Programme Outcomes

The intention of learning outcomes is to make it clear to the students what they, as learners, are expected to achieve as a result of having successfully completed the Under Graduate course. The Environmental Studies prepares students for careers as leaders in understanding and addressing complex environmental issues from a problem-oriented, interdisciplinary perspective.
After completing the CVAC in Environmental Studies, students will be able to:

1. **Critical Thinking:** Articulate the interconnected and interdisciplinary nature of environmental studies; develop the ability to critically analyse texts, ideas, and contexts related to Environmental Studies.

2. **Reasoning:** Use critical thinking, problem-solving, and the methodological approaches of the social sciences, natural sciences, and humanities in environmental problems; enhance logical reasoning skills through the study of Environmental Studies, fostering the ability to argue and interpret texts effectively related to different environmental issues.

3. **Liberal Mind-set:** Demonstrate an integrative approach to environmental issues with a focus on sustainability; cultivate an open-minded approach towards diverse ideas and perspectives of our sustainability issues. Communicate complex environmental information to both technical and non-technical audiences.

4. **Ethics:** Understand and evaluate the global scale of environmental problems; and promote ethical values and moral reasoning through the exploration of themes, ideas and issues in Environmental Studies.

5. **Social Development:** Reflect critically on their roles, responsibilities, and identities as citizens, consumers and environmental actors in a complex, interconnected world. Encourage active participation in societal development by understanding the social, historical, and cultural contexts of Environmental Heritage and Issues.

6. **Philosophical Thinking:** Foster philosophical thinking by engaging with the deep ecological concept and existential questions presented in Environmental Studies to the ideas on provisions of Indian Constitution for environmental protection.

7. **Aesthetic Sense:** Understanding the interrelationship among human population growth, environment and human health, develop an appreciation for the aesthetic qualities of every elements of nature.

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Course Outcomes

Sem.	Chapter	Course Outcome
I	**Paper: (ENVS0l): Fundamentals of Environment:** **1.About Environmental studies:**	*Students develop their awareness about immediate/wider surroundings through lived experiences on various themes related to daily life for example Family, Plants, Animals, Food, Water, Travel, and Shelter etc. *They can understand the multidisciplinary nature of environmental studies; Scope and importance; *They can learn the concept of sustainability and sustainable development and its importance. They will have better understanding about their surroundings.
	2.About Ecology and Ecosystems:	*The students will describe major theories of the concepts and methods from ecological and physical sciences and their application in environmental problem solving. * They can understand ecology and ecosystem, the structure and function of ecosystem; energy flow in an ecosystem; food chains, food webs; Basic concept of population and community ecology; ecological succession. * They will able describe the characteristic features of the following: a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem d) Aquatic ecosystems (ponds, streams, lakes, wetlands, rivers, oceans, estuaries)
	3.About Natural Resources:	* The students will identify the characteristics of Renewable and Non-renewable resources and also able to describe following facts and impacts- • Land resources and land use change; Land degradation, soil erosion and desertification. •Deforestation: Causes, consequences and remedial measures •Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). •Energy resources: Environmental impacts of energy generation, use of alternative and non-conventional energy sources, growing energy needs.
	4.About Biodiversity and Conservation:	*Understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales Biological Resources. They will able to describe the following facts and factors- •Levels of biological diversity: genetic, species and ecosystem diversity; • Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots •India as a mega-biodiversity nation; Endangered and endemic species of India •Threats to biodiversity: Habitat loss, poaching of wildlife, man-

		wildlife conflicts, biological invasions; •Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. •Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.
	5.About Environmental Pollution:	*The students will explain the following facts and factors of Pollution- • Environmental pollution: concepts and types, • Air, water, soil, noise and marine pollution- causes, effects and controls • Concept of hazards waste and human health risks • Solid waste management: Control measures of Municipal, biomedical and e-waste. They will able to predict the consequences with their skill of knowledge in this regard.
II	**Paper: (ENVS02): Environment Education** **1.About Environmental Education:**	*Students will be more concerned and able to describe following global issues with clear vision and mission- •Climate change, global warming, ozone layer depletion, acid rain and their impacts on human communities and agriculture.
	2.About Rules and Regulation on Environment:	*The students will explain the major tenets of the following laws- •Environment Laws: Wildlife Protection Act; Forest Conservation Act. Water (Prevention and control of Pollution) Act; Air (Prevention & Control of Pollution) Act; Environment Protection Act; Biodiversity Act. •International agreements: Montreal Protocol, Kyoto protocol and climate negotiations; Convention on Biological Diversity (CBD). •Protected area network, tribal populations and rights, and human wildlife conflicts in Indian context. So that, they appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.
	3.About Human Communities and the Environment:	*Students will reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world. They will describe the following - •Human population growth: Impacts on environment, human health and welfare. •Case studies on Resettlement and rehabilitation.

		•Environmental movements: Bishnois , Chipko, Silent valley, Big dam movements. •Environmental ethics: Role of gender and cultures in environmental conservation. •Environmental education and public awareness.
	4.About Disaster Awareness:	*They will apply their learned systems concepts and methodologies to analyze and understand interactions between social and environmental processes. • Environmental Disaster: Natural Disasters-floods, earthquake, cyclones, tsunami and landslides; Manmade Disaster- Bhopal and Chernobyl. Fukushima Nuclear Disaster, Kedarnath Flood, Cyclone Aila, COVID-19 • Manage environmental-related risk from an organization's operation. • Identify environmental hazards affecting air, water and soil quality. • Assess environmental-related risk. • Develop controls to reduce or eliminate risk. • Employ project management processes and analytical tools to achieve a sustainable outcome to environmental problems. • Conduct environmental research and communicate risk from an organization's operations. • Research scientific, engineering, economic, and congressional information for statutory, regulatory and sustainable approaches to environmental problems. • Prepare technical papers/briefings to communicate risk/ solutions to stakeholders.
	5.About Role of Environmental Education in Protecting Environment:	*Students will demonstrate their proficiency in quantitative methods, qualitative analysis, critical thinking, and written and oral communication skills to conduct high-level work as interdisciplinary studies for the understanding of Environmental Education- • Lifelong Learning Procedure, Pedagogy in Environmental Education, • Formal and Informal Environmental Education: Exhibition, Role playing Ability, Quiz, Debate, Fields Trip, Demonstration, Project, Poster Presentation, Seminar, Eco-club . •Role of NGOs and Government Institution •Philosophy of Environmental Education •Role of Information Technology and Mass-media: Print, Electronic and Social Media