

## SCHOOL OF INTERDISCIPLINARY AND TRANSDISCIPLINARY STUDIES

**Programme Name: M.Sc. (Environmental Science)**

**Programme Code : MSCENV**

<b>Expected Programme Learning Outcomes (PLOs) in terms of :</b>	<p><b>Knowledge:</b> The graduates should be able to demonstrate the acquisition of knowledge to:</p> <ul style="list-style-type: none"><li>• Develop specialized knowledge and understanding of the importance of Environmental Sciences.</li><li>• Define the scope of Environmental Science.</li><li>• Explain the foundations and theories of Ecological principles.</li><li>• Discuss the importance of studying environmental phenomena and associated changes.</li><li>• Synthesize theories for explaining sustainable development.</li><li>• Analyze the causes and consequences of environmental degradation and pollution</li><li>• Reflect on the interrelatedness of various components in Environmental science.</li><li>• Analyze various types of tools and techniques for environmental monitoring</li><li>• Plan effective environmental management structures for corporates and businesses.</li><li>• Assess, evaluate, and select communication technologies for disseminating environmental education</li><li>• Develop training programmes for capacity building of NGOs working in the environment sector.</li><li>• Propose sustainable solutions to environmental problems; and contribute to the development of policies and strategies for environmental planning.</li></ul>
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	<ul style="list-style-type: none"> <li>• Address the challenges of maintenance of environmental integrity for sustainable development in relation to human activities.</li> <li>• Develop an understanding of theoretical principles involved in air, water and soil pollution, monitoring and control systems.</li> <li>• Describe environmental and natural resource policy and economic problems and propose solutions based on a solid theoretical foundation in complex economic, political, social and ethical contexts.</li> </ul>
	<p><b>Skills:</b> The graduates should be able to demonstrate the acquisition of skills required to:</p> <ul style="list-style-type: none"> <li>• Develop models for environmental sustainability.</li> <li>• Use nature based solutions for environmental protection.</li> <li>• Construct appropriate models for Environmental Impact Assessment.</li> <li>• Develop efficient and effective climate change mitigation.</li> <li>• Undertake comprehensive educational research of the system and its varied processes.</li> <li>• Conduct training and development programmes for urban planning and management.</li> <li>• Develop capacity building to carry out independent assessments on environmental issues.</li> <li>• Analyze and assess environmental systems and problems.</li> </ul>
	<p><b>Application of Knowledge &amp; Skills:</b> The graduates should be able to demonstrate the ability to:</p> <ul style="list-style-type: none"> <li>• Apply knowledge and skills to review environmental projects and plans.</li> <li>• Design a model of sustainable pathways to development.</li> <li>• Apply skills to deal with the changed environment condition and devise suitable technologies to curb the growing environmental</li> </ul>

	<p>problems.</p> <ul style="list-style-type: none"> <li>• Construct knowledge about the changing environment and propose suitable solutions to safeguard its present state.</li> <li>• Create a cadre of trained professionals who are equipped to deal with scientific, technological, legal, socio-economic and policy aspects related to environment and resource management</li> </ul>
	<p><b>Generic Learning Outcomes:</b> The graduates should be able to demonstrate the ability to:</p> <ul style="list-style-type: none"> <li>• Gather and interpret relevant quantitative and qualitative data to identify problems related to environmental problems</li> <li>• Listen, read and present the information related to the environmental issues in a concise and clear manner.</li> <li>• Pursue self-paced and self-directed learning in Environmental Science.</li> <li>• Analyze and assess environmental systems and problems and will be able to develop policies and strategies for suitable environmental management with modern tools and techniques</li> <li>• Adopt holistic approach to address environmental and allied problems.</li> <li>• Apply the relevance and usefulness of environmental sciences from application perspective.</li> <li>• Create the knowledge and understanding of the physical, chemical and biological processes of the environment</li> <li>• Apply the theoretical principles involved in air, water and soil pollution and monitoring systems.</li> <li>• Pursue principle and practices involved in sustainable natural resources management and environmental management</li> <li>• Read about the knowledge and understanding in impact assessment, environmental audit and laws.</li> <li>• Provide fundamental knowledge of various components of environment and its components, to build scientific and technological perspective</li> </ul>

	<p>and to enable the learners to find solutions to the growing environmental problems.</p>
	<p><b>Constitutional, Humanistic, Ethical, and Moral Values:</b> The graduates should be able to demonstrate the willingness to:</p> <ul style="list-style-type: none"> <li>• Develop an inclusive approach towards interrelated environmental issues.</li> <li>• Develop empathy towards the environmental refugees, climate refugees, and environmental injustice.</li> <li>• Practice team work towards mitigating environmental problems.</li> <li>• Act together in times of natural disasters.</li> <li>• Follow ethical practices in conducting environmental research and project work.</li> <li>• Imbibe values of responsible environmentally appropriate behavior.</li> </ul>
	<p><b>Employability &amp; Entrepreneurship skills:</b> The graduates should be able to:</p> <ul style="list-style-type: none"> <li>• Possess the knowledge and skills to develop apps and startups in the field of diverse environmental settings.</li> <li>• Nurture entrepreneurial capacity in the specific areas like waste management, environmental impact assessment, biodiversity conservation, etc.</li> <li>• Identify and create suitable self-employment opportunities in the area of urban planning, natural resource management, pollution control, environmental monitoring, etc.</li> <li>• Provide legal and regulatory consultancy in the area of environmental domain.</li> <li>• Provide lifelong learning knowledge and skills for the continuous professional development of consultants, experts, managers, working in the sphere of Environment.</li> <li>• Independently undertake research and development in the area of</li> </ul>

	Environmental Science.
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