Shoolini University

6 CLEAN WATER AND SANITATION



WATER MANAGEMENT EDUCATIONAL OPPORTUNITIES 2025

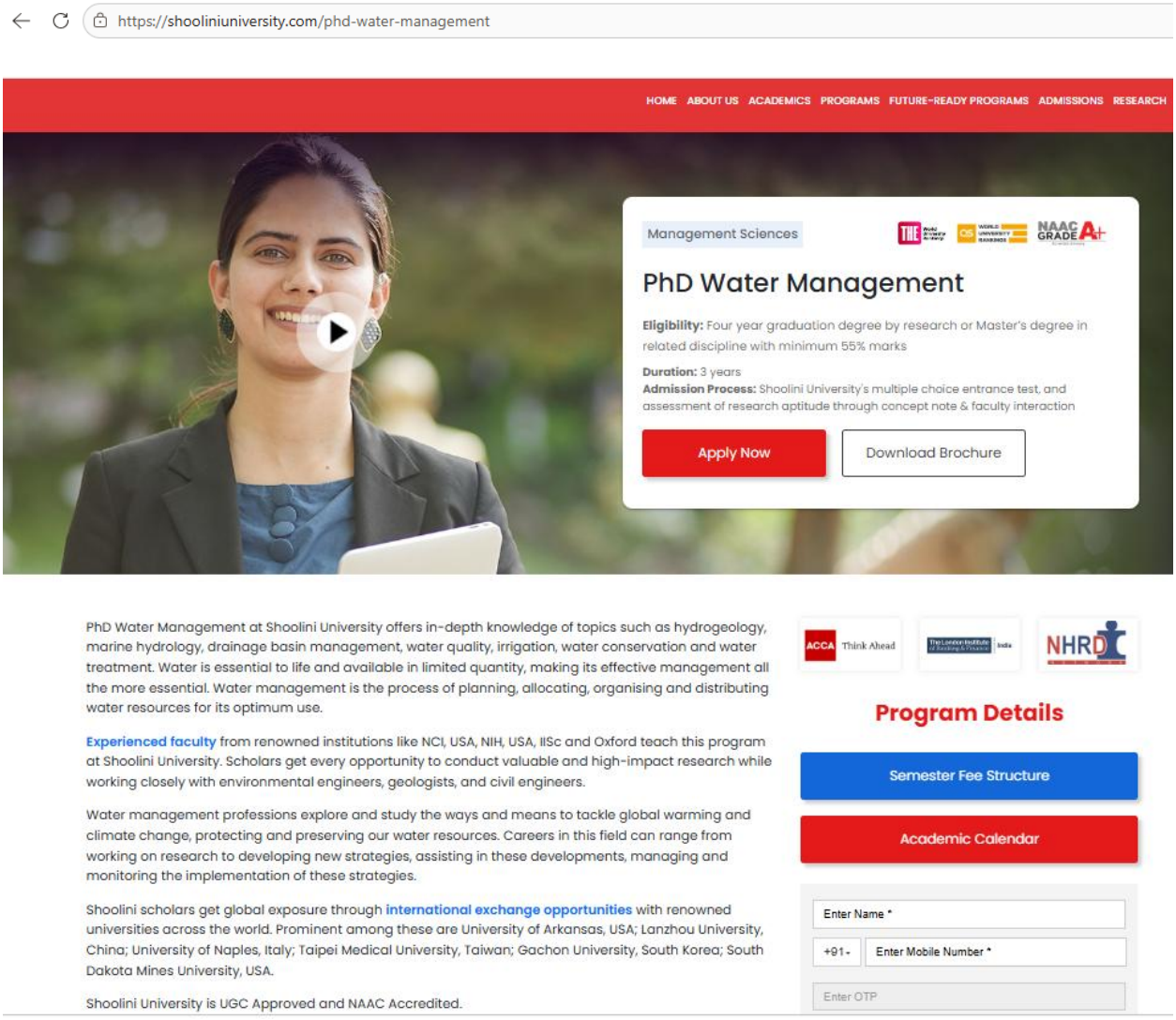
Shoolini University of Biotechnology and Management Sciences,
Solan, Himachal Pradesh, india-173229

6.5.1 Water management educational opportunities

Shoolini University provides educational and practical opportunities to promote water management, conservation, responsible water use, and protection of water resources through the following initiatives:

- **Ph.D Program in Water Management**

  The University offers a Doctorate/PhD in Water Management, a three-year program covering areas such as hydrogeology, marine hydrology, drainage basin management, water quality, irrigation, water conservation, and water treatment. The program enables scholars to undertake valuable and high-impact research in water management while working with experts from environmental engineering, geology, and civil engineering.



Courses/ Minors related to water management

Shoolini University offers sustainability-oriented educational opportunities relevant to water and natural-resource management through courses such as Biotechnological Solutions for Environmental Challenges, Our Survival: Biodiversity & Sustainability, Sustainable Tourism in the Himalayas, Ecology and Environment History, and Environmental Economics. These courses provide interdisciplinary exposure to environmental conservation, sustainable resource utilization and ecological management relevant to responsible water-resource management.

Table: List of Courses/ Minors related to water management

S. No.	Course	Course Code	Introduction Year	Students Enrolled	Relevance to Water Management
1	**Chemistry of Environmental Pollution**	CSU2629	2025	43	Develops understanding of water pollution, contaminant behaviour, and nanotechnology-based photocatalytic methods for wastewater treatment and water purification.
2	**Biotechnological Solutions for Environmental Challenges**	CSU1431	2025	65	Explores environmental biotechnology applications in wastewater treatment, pollution control, and remediation of contaminated water resources.
3	**Our Survival: Biodiversity & Sustainability**	CSU637	2025	71	Biodiversity conservation, ecosystem sustainability and natural-resource management
4	**Sustainable Tourism in the Himalayas**	CSU655	2024	68	Sustainable management of Himalayan natural resources and ecosystems
5	**Ecology and Environment History**	CSU715	2024	39	Ecological systems, environmental conservation and natural-resource management
6	**Environmental Economics**	CSU1778	2025	63	Economic approaches to environmental-resource management and sustainability

7	**Organic Farming**	AGRM 123	2025	66	Sustainable agriculture and resource-efficient agricultural practices
8	**Sustainable Leadership for Environmental Happiness**	CSU2034	2025	70	Environmental sustainability and responsible resource management

Other Activates focused on Water management:

- **Water Management Awareness Camps**

  The University conducts awareness camps for students and local communities focusing on the importance of water conservation, responsible water use, and sustainable management of water resources.



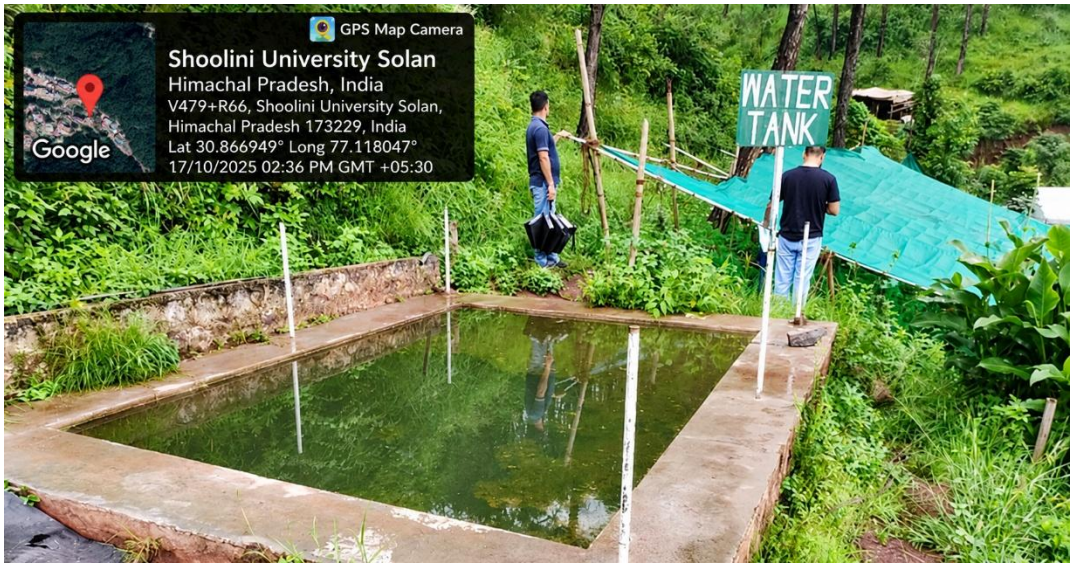
Awareness session on Sanol Gram Panchayat

- **Water Resource Cleaning and Conservation Activities**

  Awareness and outreach activities are also undertaken inside and outside the campus to promote the cleaning and protection of water resources and to sensitize participants about preventing water pollution and maintaining clean water sources.



Volunteer collecting litter from water-resource



Water tanks near the plant nursery

- **Recharge Pits for Water Conservation**

  The University has recharge pits within the campus as part of its water-conservation and groundwater-recharge practices. These facilities also provide an opportunity to demonstrate practical approaches to sustainable water management.



Rainwater collection reservoir near the Yogananda Villa

- **Rainwater-Harvesting Tanks**

  Rainwater-harvesting tanks are available on campus to support the collection and conservation of rainwater and to demonstrate sustainable water-resource management practices.



Rainwater harvesting pond near G & H block

Sustainability-focused campus orientation activities, including the Induction 2025 Campus Tour, introduce students to water management, water conservation, and responsible resource use, helping integrate water-awareness into student life.

Research Opportunities:

Students pursuing water management at Shoolini University engage in cutting-edge research focused on innovative water treatment technologies. The university's Sewage Treatment Plant

employs a combination of biological treatment, including the Activated Sludge Process, and tertiary treatment using advanced activated carbon and pressure filters to achieve high-quality effluent. Research efforts are dedicated to developing eco-friendly, cost-effective, and sustainable wastewater treatment technologies such as photocatalysis, aiming to improve water purification while minimizing environmental impact. Scholars have opportunities to pilot new treatment methodologies and contribute to high-impact publications and patents in the field.

Moreover, Shoolini University has been recognized as a Social Entrepreneurship, Swachhta & Rural Engagement Cell (SES REC) Institution by the Mahatma Gandhi National Council of Rural Education. This certification highlights the university's leadership in promoting water management, waste management, and sustainability initiatives in both campus and community settings.



Certificate

सत्यमेव जयते

Where there is Rural Wellbeing there is Universal Prosperity

This is to certify that Shoolini University of Biotechnology& Management Science, Solan is now a Recognized Social Entrepreneurship, Swachhta & Rural Engagement Cell (SES REC) Institution. The Institution has successfully framed the SES REC Action Plan and constituted ten working groups for improving facilities in the Campus and the Community/Adopted Villages in the areas of Sanitation & Hygiene, Waste Management, Water Management, Energy Conservation and Greenery post COVID-19, along with the observation of three environment, entrepreneurship and community engagement related days to inculcate in faculty, students and community, the practices of Mentoring, Social Responsibility, Swachhta and Care for Environment and Resources.

Date of Issue:
28/08/2020

Dr. W G Prasanna Kumar
Chairman

Mahatma Gandhi National Council of Rural Education
Department of Higher Education, Ministry of Education
Government of India

Certificate No.: MoE/SES REC/HP/Solan/02

Certificate received from SES REC

Ministry of Education

1.	Name of Institution	Shoolini University of Biotechnology and Management Sciences
2.	Address of Institution	Shoolini University, Bajhol, Solan, Himachal Pradesh-173229
3.	University Affiliation	UGC, HP Government
4.	District and State	Solan, Himachal Pradesh
5.	Name of Principle/HoI (Convenor of SES REC	Dr. Neeraj Gandotra
6.	Contact Number (Whatsapp Number)	9418247612/9218301016
7.	Email-id	neerajgandotra@shooliniuniversity.com

Table: Water- and Sustainability-Related Events /Activities in 2025

Sr. No.	**Event / Activity**	**Date**	**Venue**	**Key Activity / Purpose**
1	Bisleri's Bottles for Change: Cleaning Drive at Shoolini University Nearby	22 April 2025	Shoolini University Campus	Collection, segregation and responsible recycling of PET bottles and plastic waste; awareness on responsible consumption and environmental protection
2	Clean Today, Green Tomorrow – An Empathetic Cleaning Drive	22 November 2025	Ashwini Khad	Cleaning and segregation of waste from a natural water resource, with emphasis on removing plastic and non-biodegradable waste, protecting water quality and

				sensitizing the local community
3	Walking Into a Greener Tomorrow – Campus Tour (Induction 2025)	21–23 August 2025	Shoolini University Campus	Orientation of new students on water conservation, responsible water use, energy conservation and other campus sustainability initiatives

Activity 1:

Bisleri's Bottles for Change: Cleaning Drive at Shoolini University Nearby

SDG 13: Climate Action & SDG 11: Sustainable Cities and Communities

Date: 22nd April 2025

On this special Earth Day, Shoolini University joined hands with Bisleri's "Bottles for Change" initiative to take a bold step towards a cleaner, greener campus. The drive was a powerful reminder that small actions, when taken together, can spark big changes.

"Bottles for Change" is more than just a cleanup—it's a movement that transforms how we think about plastic waste. Instead of discarding PET bottles and plastic waste, the initiative encourages us to collect, segregate, and recycle responsibly, turning what was once trash into valuable resources. This circular approach to plastic is vital for protecting our environment and reducing pollution.

On April 22, a dedicated group of students and volunteers scoured the campus surrounding, collecting plastic waste with energy and enthusiasm. Each bottle picked up was a step towards breaking the cycle of plastic pollution and building awareness about sustainable living.

The drive not only cleared the campus but also instilled a deep sense of responsibility and environmental consciousness in every participant. It was a beautiful collaboration of youth

passion, community spirit, and corporate commitment, perfectly aligned with global efforts to promote responsible consumption and climate action.

As we walked through the campus, collecting plastic and sharing smiles, we became part of a larger story—one where every bottle collected is a bottle for change.



Community Engagement in Cleaning the nearby area of campus



Volunteer Efforts to Reduce Litter

Activity 2:

Clean Today, Green Tomorrow – An Empathetic Cleaning Drive at Ashwini Khad

Date: 22 November, 2025

Venue: Ashwini Khad

Aligned with Sustainable Development Goals (SDGs): SDG 6 – Clean Water and Sanitation | SDG 11 – Sustainable Cities and Communities | SDG 13 – Climate Action

On 22nd November, volunteers of the National Service Scheme (NSS) undertook a meaningful cleaning drive at Ashwini Khad, driven by a shared sense of responsibility toward nature and the local community. The initiative aimed not only to clean the area but also to foster empathy toward the environment by highlighting the impact of human actions on natural ecosystems.

The volunteers actively engaged in the **collection and segregation of waste from water resources**, with a strong focus on removing plastic and other non-biodegradable materials that threaten water quality and harm aquatic life. As the drive progressed, participants observed firsthand how careless disposal of waste affects natural water bodies, reinforcing the importance of mindful and sustainable practices.

Beyond physical cleaning, the activity encouraged **reflection and dialogue** among volunteers about environmental degradation, water conservation, and the need for collective action. The drive served as a learning experience, reminding participants that protecting nature begins with awareness, care, and everyday choices. The shared effort strengthened teamwork and instilled a deeper sense of connection with the surroundings.

Local passersby and community members were also sensitized during the drive, as volunteers informally communicated the importance of maintaining cleanliness and respecting natural spaces. This interaction helped extend the message beyond the activity itself, encouraging broader community participation in environmental stewardship.

The cleaning drive at Ashwini Khad stood as a heartfelt reminder that **environmental care is an act of compassion**—for nature, for communities, and for future generations. Through this

initiative, NSS reaffirmed its commitment to sustainable development, civic responsibility, and youth-led action, demonstrating how empathy and service can come together to create lasting positive change.

No. of Volunteers: 40



Volunteers group photograph after natural water-resource clean-up

Activity 3:

Walking Into a Greener Tomorrow: Campus Tour (Induction 2025)

SDG 3: Good Health & Well-being, SDG 4: Quality Education **SDG 6: Clean Water and Sanitation**, SDG 7: Affordable and Clean Energy, SDG 11: Sustainable Cities and Communities, SDG 12: Responsible Consumption and Production, SDG 13: Climate Action & SDG 15: Life on Land

Date: August 21-23, 2025

The Campus Tour organized during Induction 2025 between 21st and 23rd August was carefully designed to introduce freshers to their new academic home while embedding within them a sense of responsibility towards the environment responsibility and sustainable water management. More than just an orientation walk, it was a guided journey into the sustainable heartbeat of the university, where students were introduced to water conservation, responsible water use, energy conservation, and other green initiatives across the campus. Through awareness messages and sustainability-focused interactions, the tour encouraged students to understand the importance of conserving water and adopting responsible water-management practices as part of their daily lives.

One of the most memorable stops on the tour was the Yogananda Library—a symbol of both learning and sustainability. Students were welcomed by colorful, student-friendly posters placed throughout the library, each carrying engaging messages on themes such as energy conservation, water management, and responsible consumption. Walking through the aisles, freshers were not only introduced to academic resources but also to the green principles guiding the campus. Beyond the library, the tour covered a series of sustainability-rich spaces across campus. At the solar rooftops, students learned how clean energy powers classrooms and laboratories. Students were introduced to the importance of water conservation, responsible water consumption, and sustainable water-resource management at Shoolini University. The initiative highlights the role of students in preventing *water wastage, maintaining hygiene, protecting natural water resources, and promoting awareness of clean water and sanitation*. The tour also provides an opportunity to familiarise new students with campus water-management practices, including wastewater treatment and water reuse, where demonstrated during the visit.

Adding a fun and interactive element, the orientation also included classic campus games such as tug-of-war and sack races. These activities fostered team spirit, encouraged collaboration among students, and offered a lighthearted way to reinforce the values of participation, fairness, and community engagement.

The impact of the tour was both immediate and lasting. Over 400 students actively participated on each day, with sustainability-themed photographs uploaded during the event. Nearly all participants pledged to adopt eco-friendly practices in their daily routines. The library posters, in particular, received special appreciation for making sustainability messaging both visually appealing and academically relevant, turning the library into not just a space of knowledge, but also of environmental awareness.

In conclusion, the Campus Tour of Induction 2025 successfully oriented students not just to the university's infrastructure but to its values. By highlighting spaces like the library, and green zones, and by making sustainability fun through creative posters and interactive activities, the tour helped freshers recognize that they are part of a campus community where environmental consciousness is a shared responsibility.



Ms. Poonam Nanda, Director - Sustainability and student Engagement in Sustainability Awareness

Conclusion

Shoolini University promotes sustainable water management through academic programmes, research opportunities, awareness campaigns, and water-resource conservation activities. Initiatives such as water management awareness sessions, natural water-resource cleaning drives, and campus sustainability tours encourage responsible water use and environmental protection. These efforts strengthen water literacy and community participation in conserving water resources. Collectively, they support SDG 6 (Clean Water and Sanitation) and contribute to broader sustainability goals.