

Overview

Water Sensitive Urban Design is supported by a philosophy of providing urban water services that consider the site-specific opportunities and limitations of development to provide water services in a way that protects and enhances local hydrological and ecological integrity and considers all flows in the urban water cycle as valuable resources. Incorporating WSUD as a mainstream practice in urban developments will improve resilience to reduced yield from water catchments due to potential climate change impacts. WSUD is seen as a component of integrated urban water management (IUWM). IUWM promotes a coordinated planning approach to drinking water, wastewater, and stormwater services that take into consideration the overall sustainability of urban developments and the implications of water services in other areas such as energy demand, greenhouse gas emissions, solid waste generation, nutrient losses, life cycle cost, and community acceptability.

Urban society has also developed the aspiration to be more locally self-sufficient and to protect the remaining natural urban ecosystem, involving effluent reuse, stormwater capture and reuse, and rainwater tanks, combined with more energy-efficient technologies. The specific drivers for WSUD also varied between countries, with North America initially focusing on water quality improvement, whilst much of Europe was driven by the need to reduce local flooding and overflows from their “combined sewers”, which carry both stormwater and sewage.

Australia focused on water quality protection, waterway ecosystem protection, and littoral zone conservation, whilst other countries, such as China, are facing urban water shortages that somewhat perversely are accompanied by regular flooding and impaired stormwater quality. Even though these approaches are comparatively new, there is today a wide range of WSUD technologies, design models, descriptive terms, driving objectives, guidelines, regulations, effectiveness metrics, and economic values as part of the journey to urban sustainability.

Objectives

The primary objectives of the course are as follows:

1. Exposing participants to the fundamentals of water-sensitive urban design and integrated urban water management approaches and concepts.
2. Building in capability amongst the participants in the application of water-sensitive urban design and integrated water management approaches and concepts for sustainable urban developments.
3. Role of water-sensitive urban design approaches in mitigating population growth, urbanization, and climate change impacts.
4. Providing exposure to practical problems and their solutions, through case studies and application of certain tools.

GIAN Course in Water Sensitive Urban Design and Integrated Urban Water Management

December 19-23, 2022



Under the aegis of
**Global Initiative of Academic
Networks (GIAN)**

**Organized by
Department of Civil
Engineering
IIT Roorkee**

An initiative of



You should attend, if

- you are a civil engineer, hydrologist, or research scientist interested in water-sensitive urban design, integrated water management, planning, and sustainable urban water services design.
- you are a student of B.Tech. or M.Tech. or Ph.D. pursuing academic institutions interested in higher studies in the field of hydrology and hydraulics and want to learn water-sensitive urban design and its applications.
- you are a faculty from an academic institution interested in learning how to do research on water-sensitive urban design, integrated urban water management, planning, and design of a rainwater tank system or a communal rainwater tank system.

Modules

- Water-sensitive urban design,
 - Integrated Urban Water Management,
 - Rainwater Harvesting
 - Communal Rainwater Tank Systems
- The number of participants in the course will be limited to fifty.

Course Instructor



Dr. Ashok Kumar Sharma is an Associate Professor at Victoria University Melbourne Australia. His research interests include Hydraulics and hydrology, integrated urban water management, water-sensitive urban design, and centralized water and wastewater.

Course Co-ordinator



Dr. Pramod Kumar Sharma is an Associate Professor at the Indian Institute of Technology, Roorkee. His research interests are Groundwater hydrology and hydraulics, Mathematical and numerical modeling, Flow, and Contaminant transport.

How to apply?

This course will be conducted in person at IIT Roorkee. Candidates can register themselves by submitting the registration form. The registration form can be filled out at the following link.

<https://gian.iitkgp.ac.in/ccourses/approvecourses3>

Registration Fees

Student: INR 3500

Faculty: INR 6000

Participant from Industry / Research Organization: INR 10000

Last date to register: November 30, 2022

Lodging and boarding

Lodging and boarding will be provided on request, made in advance, and at an additional cost.

Please note that the accommodation will be provided in guesthouses or hostels depending on the availability of the rooms.

Event Venue

Indian Institute of Technology Roorkee,
Roorkee - 247667, Uttarakhand