

COURSE OVERVIEW TE0267
Water Resources Management & Policies

Course Title

Water Resources Management & Policies

Course Date/Venue

September 16-20, 2024/Ajman Meeting Room,
 Grand Millennium Al Wahda Hotel, Abu Dhabi
 UAE

Course Reference

TE0267



Course Duration/Credits

Five days/3.0 CEUs/30 PDHs

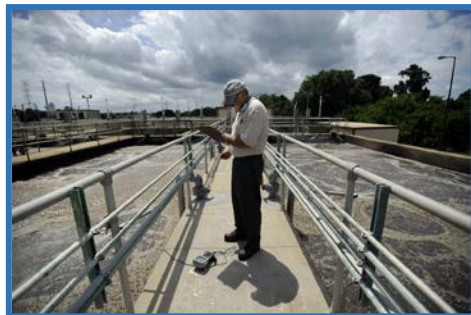
Course Description



This practical and highly-interactive course includes practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.



This course is designed to provide participants with a detailed and up-to-date overview of Water, Resources Management and Policies. It covers the key concepts, challenges and importance of sustainable management; the global water cycle, factors affecting water availability and the distribution of fresh water resources; the principles of integrated water resources management (IWRM); analyzing patterns of water demand across different sectors; and the strategies for demand management.



Further, the course will also discuss the impact of climate change on water resources; the strategies and technologies for improving water use efficiency and promoting conservation practices; the water quality standards and indicators; the sources and types of water pollution; the wastewater treatment and reuse; the pollution prevention and control strategies, groundwater quality and aquifer management; the water quality monitoring and assessment; and the international water law and transboundary water management.

During this interactive course, participants will learn the national water policies and legislation, water rights and allocation mechanisms; the public participation, stakeholder engagement, conflict resolution and cooperation in water management; the economic instruments in water policy; the water infrastructure planning and development; the reservoir and dam management, rainwater harvesting and storage, irrigation systems and agricultural water management; the smart technologies for urban water management including smart meters and sensors; planning for and managing water-related disasters to ensure continuity of services; the emerging technologies and innovations in water treatment, monitoring and conservation; the interdependencies between water and energy systems and strategies for integrated management; adapting water management practices to cope with climate change impacts; the future challenges and opportunities in water resources management; and developing a water management action plan.

Course Objectives

Upon the successful completion of this course, you will be able to: -

- Apply and gain systematic techniques and methodologies on water resources management and policies
- Discuss the water resource management including key concepts, challenges and the importance of sustainable management
- Recognize the global water cycle, factors affecting water availability and the distribution of fresh water resources
- Explain the principles of integrated water resources management (IWRM), analyze patterns of water demand across different sectors and apply strategies for demand management
- Explore the impact of climate change on water resources as well as apply strategies and technologies for improving water use efficiency and promoting conservation practices
- Identify water quality standards and indicators including the sources and types of water pollution
- Carryout wastewater treatment and reuse, pollution prevention and control strategies and groundwater quality and aquifer management
- Employ water quality monitoring and assessment as well as international water law and transboundary water management
- Review national water policies and legislation, water rights and allocation mechanisms
- Perform public participation, stakeholder engagement, conflict resolution and cooperation in water management
- Recognize economic instruments in water policy and apply water infrastructure planning and development
- Carryout reservoir and dam management, rainwater harvesting and storage and irrigation systems and agricultural water management

- Discuss smart technologies for urban water management including smart meters and sensors
- Plan for and manage water-related disasters to ensure continuity of services
- Explore emerging technologies and innovations in water treatment, monitoring and conservation
- Discuss the interdependencies between water and energy systems and strategies for integrated management
- Adapt water management practices to cope with climate change impacts
- Discuss future challenges and opportunities in water resources management and develop a water management action plan

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials, sample video clips of the instructor’s actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.

Who Should Attend

This course provides an overview of all significant aspects and considerations of water resources management and policies for industrial waste water compliance managers, supervisors, engineers, inspectors, plant managers and HSE staff. Further, the course is suitable for operations, inspection, maintenance and design engineers and technical staff including laboratories.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -


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The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

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British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council for Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

Course Fee

US\$ 5,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.



Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Mr. Kyle Bester is a **Senior Water Engineer** with extensive years of practical experience within the **Oil & Gas, Power & Water Utilities** and other **Energy** sectors. His expertise includes **Water Resources Management & Policies, Water Reservoir, Water Tanks, Water Pumping Station, Water Distribution System, Water Network System, Water Pipes & Fittings, Water Hydraulic Modelling, Water Storage Reservoir, Reservoirs & Pumping Stations Design & Operation, Pumping Systems, Interconnecting Pipelines, Water Network Hydraulic Simulation Modelling, Water Supply Design, Water Balance Modelling, Water Distribution Network, Water Network System Analysis, Water Forecasts Demand, Water Pipelines Materials & Fittings, Water Network System Design, Pump Houses & Booster Pumping Stations, Potable Water Transmission, Water Distribution Network, Districts Meters Areas (DMAs), Water Supply & Desalination Plants Rehabilitation, Water Reservoirs & Pumping Stations, Water Network System Extension, Water Network System Replacement & Upgrade, Water Networks Optimization, Water Supply & Distribution Systems Efficiency & Effectiveness, Pipe Materials & Fittings, Service Reservoir Design & Operation, Pipes & Fittings, Water Network System Design & Operation, Supply Water Network Rehabilitation, Water Loss Reduction, Main Water System Construction, Main Water Line Construction, Transmission & Distribution Pipelines, Water Distribution Design & Modelling, Water Supply System, Oilfield Water Treatment, Best Practice in Sewage & Industrial Wastewater Treatment & Environmental Protection, Water Distribution Design & Modelling, Desilting, Treating & Handling Oily Water, Water Chemistry for Power Plant, Water Sector Orientation, Environmental Impact Assessment (EIA), Potable Water, Reverse Osmosis Treatment Technology and Chlorination System, Well Inventory, Monitoring & Conservation, Qualitative Analysis of Soil & Ground Water, Water Networking, Hydraulic Modelling Systems, Pumping Stations, Centrifugal Pumps, Pipelines & Pumping, Water Reservoirs, Water Storage Tanks, Extended Activated Sludge Treatment, Sewage & Industrial Wastewater Treatment & Environmental Protection, Supervising & Monitoring Sewage Works, Water Desalination Technologies, Water Distribution & Pump Station, Best Water Equipment Selection & Inspection, Hydraulic Modelling for Water Network Design, Water Utility Industry, Water Desalination Technologies & New Development, Water Hydrology, Water Conveyors, Water Networks Rehabilitation. He is currently the **Part Owner & Manager** of Extreme Water SA wherein he manages, re-designed and commissioned a water and wastewater treatment plants.**

During his career life, Mr. Bester has gained his practical and field experience through his various significant positions and dedication as the **Project Manager, Asset Manager, Manager, Water Engineer, Supervisor, Team Leader, Analyst, Process Technician, Landscape Designer** and **Senior Instructor/Trainer** for various international companies, infrastructures, water and wastewater treatment plants from New Zealand, UK, Samoa, Zimbabwe and South Africa, just to name a few.

Mr. Bester holds a **Diploma in Wastewater Treatment** and a **National Certificate in Wastewater & Water Treatment**. Further, he is a **Certified Instructor/Trainer**, an **Approved Chemical Handler** and has delivered numerous courses, trainings, conferences, seminars and workshops internationally.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: Monday, 16th of September 2024

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Introduction to Water Resources Management: Overview of Water Resource Management, including Key Concepts, Challenges & the Importance of Sustainable Management
0930 – 0945	Break
0945 – 1030	Global Water Cycle & Water Availability: Understanding the Global Water Cycle, Factors Affecting Water Availability & the Distribution of Fresh Water Resources
1030 – 1115	Principles of Integrated Water Resources Management (IWRM): Introduction to IWRM Principles, including the Integration of Land & Water Management
1115 – 1200	Water Demand & Usage Analysis: Analyzing Patterns of Water Demand Across Different Sectors (Agricultural, Industrial, Domestic) & Strategies for Demand Management
1200 – 1215	Break
1215 – 1315	Climate Change & Water Resources: Exploring the Impact of Climate Change on Water Resources, Including Variability, Scarcity & Quality Issues
1315 – 1420	Water Conservation & Efficiency: Strategies & Technologies for Improving Water Use Efficiency & Promoting Conservation Practices
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2: Tuesday, 17th of September 2024

0730 – 0830	Water Quality Standards & Indicators: Overview of Water Quality Parameters, Standards & Indicators Used to Assess Water Quality
0830 – 0930	Sources & Types of Water Pollution: Identifying Sources of Pollution (Point & Non-Point Sources) & Their Impact on Water Bodies
0930 – 0945	Break
0945 – 1100	Wastewater Treatment & Reuse: Principles of Wastewater Treatment Processes, Technologies & the Potential for Treated Wastewater Reuse
1100 – 1200	Pollution Prevention & Control Strategies: Best Practices & Technologies for Preventing & Controlling Water Pollution
1200 – 1215	Break
1215 – 1315	Groundwater Quality & Aquifer Management: Understanding the Challenges Associated with Groundwater Quality & Strategies for Aquifer Protection & Management
1315 – 1420	Water Quality Monitoring & Assessment: Techniques & Tools for Monitoring Water Quality & Assessing Compliance with Regulatory Standards
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3: Wednesday, 18th of September 2024

0730 – 0830	International Water Law & Transboundary Water Management: Key Principles of International Water Law & Issues in Transboundary Water Management
0830 – 0930	National Water Policies & Legislation: Overview of Water-Related Policies, Laws & Regulatory Frameworks at the National Level
0930 – 0945	Break
0945 – 1100	Water Rights & Allocation Mechanisms: Understanding Water Rights, Permits & Allocation Mechanisms for Managing Water Use
1100 – 1200	Public Participation & Stakeholder Engagement: Strategies for Engaging Stakeholders & the Public in Water Resource Management Decisions
1200 – 1215	Break
1215 – 1315	Conflict Resolution & Cooperation in Water Management: Approaches to Resolving Conflicts Over Water Use & Promoting Cooperation Among Water Users
1315 – 1420	Economic Instruments in Water Policy: Use of Economic Instruments (Pricing, Taxes, Subsidies) to Achieve Water Management Objectives
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4: Thursday, 19th of September 2024

0730 – 0830	Water Infrastructure Planning & Development: Principles of Planning & Developing Water Supply & Sanitation Infrastructure
0830 – 0930	Reservoir & Dam Management: Managing Reservoirs & Dams for Multiple Purposes (Water Supply, Flood Control, Recreation)
0930 – 0945	Break
0945 – 1100	Rainwater Harvesting & Storage: Techniques & Benefits of Rainwater Harvesting & Storage for Augmenting Water Supplies
1100 – 1200	Irrigation Systems & Agricultural Water Management: Overview of Irrigation Methods & Strategies for Efficient Agricultural Water Use
1200 – 1215	Break
1215 – 1315	Urban Water Management & Smart Technologies: Smart Technologies for Urban Water Management, including Smart Meters & Sensors
1315 – 1420	Disaster Risk Management for Water Utilities: Planning for & Managing Water-Related Disasters (Floods, Droughts) to Ensure Continuity of Services
1420 – 1430	Recap
1430	Lunch & End of Day Four

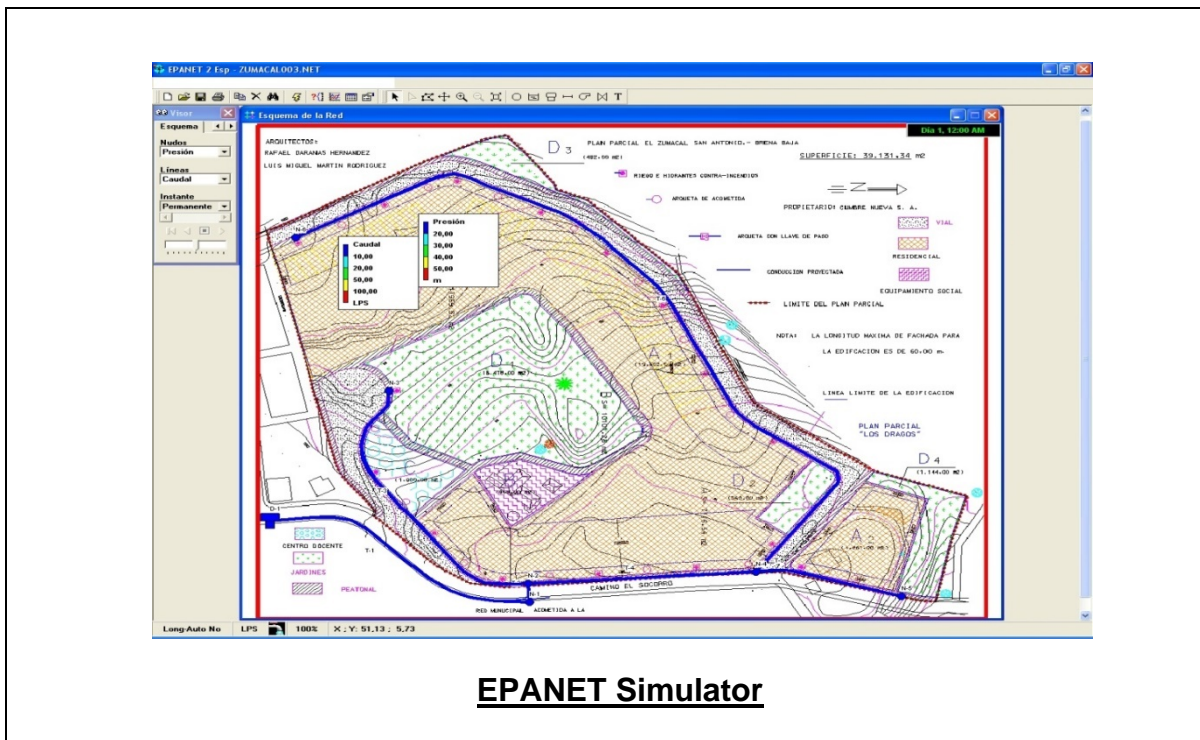
Day 5: Friday, 20th of September 2024

0730 – 0830	Case Studies in Sustainable Water Management: Reviewing Successful Case Studies of Sustainable Water Management Practices from Around the World
0830 – 0930	Emerging Technologies in Water Management: Exploration of Emerging Technologies & Innovations in Water Treatment, Monitoring & Conservation
0930 – 0945	Break
0945 – 1100	Water-Energy Nexus: Understanding the Interdependencies Between Water & Energy Systems & Strategies for Integrated Management

1100 – 1200	Adapting to Climate Change in Water Resources Management: Strategies for Adapting Water Management Practices to Cope with Climate Change Impacts
1200 – 1215	Break
1215 – 1300	Future Challenges & Opportunities in Water Resources Management: Discussion on Future Challenges (Population Growth, Urbanization) & Opportunities (Technology, Policy Innovation) in Water Management
1300 – 1345	Developing a Water Management Action Plan: Workshop on Developing an Action Plan for Implementing Water Management Strategies Within the Participants' Organizations
1345 – 1400	Course Conclusion
1400 – 1415	POST-TEST
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course

Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the of EPANET Simulator.



EPANET Simulator

Course Coordinator

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