MELBOURNE
22-26 October, 2018

COURSES IN:

Recycled Water Management

Quantitative Microbial Risk Assessment for Water Safety Management

Best Practice Drinking Water Quality Management
Recycled Water Management

This course provides training in best practice recycled water management. Taking a practical approach, the course is targeted to those responsible for aspects of recycled water quality and environmental management in water utilities and private water suppliers as well as health and economic regulators.

This practical course is structured around a series of sessions that begin by explaining concepts using illustrative examples. Each short lecture is followed by small group and individual exercises to provide opportunities for participants to apply concepts to their situations. Case studies of implementation are given using leading edge Australian examples.

ISSUES ADDRESSED

DAY 1
- Overview of water recycling in Australia
- Historical context and development of water recycling in Australia
- Overview of recycled water guidelines and approaches
- Recycling of sewage and greywater (Phase 1 guidelines)
- Potable reuse (Phase 2a guidelines)
- Recycling of stormwater (Phase 2b guidelines)
- Managed aquifer recharge (Phase 2c guidelines)
- Recent updates and probable future developments

DAY 2
- Visit to local recycled water treatment plant
- Overview of the AGWR risk management framework
- Related management systems such as ISO 22000 and HACCP
- Commitment, stakeholders & system assessment team
- System description and process flow diagrams
- Data analysis and interpretation

DAY 3
- Environmental targets in water recycling
- Methodologies for hazard analysis and risk assessment risk ranking
- Identifying hazards, assessing risks and setting management priorities
- Identifying preventive measures, critical control points
- and control programs
- Developing specifications for monitoring and control of risks
- Verification of system performance
- Management of incidents and emergencies
- Supporting programs underpinning the risk management system
- Management plans and regulatory approvals

WHO SHOULD ATTEND?
- Those seeking an understanding of recycled water best practice
- Professionals involved in operational, regulatory or service provision roles
- Those developing and implementing recycled water management plans.

Go to www.iwes.com.au for the extended course outline

Presenters: Daniel Deere and Daryl Stevens

Mon 22 | Tues 23 | Wed 24
This new 2-day course provides an introduction to Quantitative Microbial Risk Assessment (QMRA), and its application for managing microbial risks in the drinking water, wastewater and recreational water contexts.

Participants will be introduced to QMRA as a risk management tool, and provided with a firm practical foundation for understanding the appropriate contexts of application. This course will include an introduction to the four-step process of QMRA aligned with Australian and World Health Organization guidance. More detailed attention will be given to defining an appropriate scope for the risk assessment in consultation with stakeholders; defining the appropriate level of detail for the risk calculations; interpretation of site-specific data and international published data for quantifying model inputs; and assessing and communicating the outputs of the analysis.

The material is intended to provide an overview of the important principles and considerations in application of QMRA for risk management. Participants will be equipped with an introductory understanding of the QMRA framework; and with the investigative tools to be able to critique and assess a QMRA study undertaken for them by a consultant.

 ISSUES ADDRESSED

DAY 1
- Introduction to QMRA
- QMRA framework and risk management
- Problem formulation: defining the scope and purpose
- Exposure assessment: quantifying the environmental exposure
- Health effects assessment: estimating the health impacts
- Risk characterisation: interpretation of the outcome.

DAY 2
- Application and examples:
  - Several practical examples for group discussion from the drinking water, wastewater and recreational water contexts.
  - Participants are encouraged to BYO case study for discussion during final session.

WHAT DO YOU GET?
- USB and hardcopy course notes.

WHO SHOULD ATTEND?
Anyone interested in gaining an introductory understanding of QMRA either as a first step in undertaking QMRA themselves; or to equip them for evaluating QMRAs undertaken by others.

Go to www.iwes.com.au for the extended course outline

Presenter: Susan Petterson
Best Practice Drinking Water Quality Management

This course provides training in best practice drinking water quality management. Taking a practical approach, the course is targeted to those responsible for aspects of drinking water quality management in water utilities and private water suppliers as well as health and economic regulators. This practical course is structured around a series of sessions that begin by explaining concepts using illustrative examples. Each short lecture is followed by small group and individual exercises to provide opportunities for participants to apply concepts to their situations. Case studies of implementation are given using leading edge Australian examples.

ISSUES ADDRESSED

DAY 1

• Context and history of drinking water quality management
• Guiding principles of multiple barrier preventive risk management
• Waterborne disease outbreaks: causes, lessons, trends
• Acute and lifetime exposure guideline values for chemicals
• Pathogen log reduction values
• Sanitary surveys and drinking water source protection
• Matching water treatment technologies to objectives
• Water quality management in distribution systems
• Validation of barriers in-sewer physical, chemical and biological processes.

DAY 2

• Regulation and oversight of water quality management
• Formal requirements and standard of duty
• Water quality risk assessment and management frameworks
• NHMRC/NRMMC Australian Drinking Water Guidelines (ADWG)
• ADWG Framework for Management of Water Quality
• ISO 22000, ISO 9001 and Codex HACCP
• Stakeholders and risk assessment team
• System description and process flow diagrams
• Water quality data analysis and presentation
• Hazard analysis and risk assessment

WHO SHOULD ATTEND?

• Those seeking an understanding of drinking water quality best practice
• Professionals involved in operational, regulatory or service provision roles
• Those developing and implementing drinking water management plans.

WHAT DO YOU GET

• Comprehensive coverage of drinking water quality management in Australia
• USB and hardcopy course notes
• Access to experienced water quality management practitioners
• Exercises and pro forma's to assist with implementation
• Peer contacts working in water quality management.

Go to www.iwes.com.au for the extended course outline
Please select your course/s and complete the registration form in full. **Please note, one registration form per person is required.** Forward your completed form to info@iwes.com.au, we will respond to confirm your details asap.

### Please register me for these courses:  

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### Discounts for organisations registering multiple delegates  

- 2 - 3 delegates = 5%  
- 4 - 5 delegates = 10%  
- 6 and over = 15%  

AWA Member = 10%  

AWA Membership Number: ________________________________

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- I have dietary requirements. Details  
- Please add my contact details to the IWES enews so I can receive updates on upcoming events.  
- Please send me more information on WaterAid Australia.

Send completed form to IWES by Email: info@iwes.com.au  

UQ ABN: 63 942 912 684

### TERMS AND CONDITIONS  

1. Cancellation of registration less than 3 weeks before the starting date of a course(s) will incur a cancellation fee of 50% of the course price. Alternatively, delegates may send a substitute.  
2. While every attempt will be made to deliver all advertised courses, IWES reserves the right to cancel individual courses at short notice.  
3. Only registrations submitted and invoiced in one batch qualify for multiple registration discounts.