

WATER RESOURCES QUALITY MANAGEMENT

UNIT CODE: CON/CU/CET/CR/08/6/A

Relationship to Occupational Standards

This unit addresses the Unit of Competency: manage water resources quality

Duration of Unit: 60 hours

Unit Description

This unit covers the competencies required to manage water resources quality. It involves monitoring, managing water resources quality, managing groundwater quality, managing wastewater quality and treating and disposing wastewater.

This standard applies in water sector.

Summary of Learning Outcomes

- 1 Monitor water resources quality
- 2 Surface Water quality management
- 3 Ground Water quality management
- 4 Manage wastewater quality

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Monitor water resources quality	<ul style="list-style-type: none">• Objectives of water quality monitoring• Reconnaissance survey and reporting• Water quality monitoring protocol• WQM schedules• Water resources quality monitoring site selection• Indicators of environmental water quality• Tools and equipment for environmental water quality	<ul style="list-style-type: none">• Observation• Interviewing• Oral questioning• Field study reports• Third party report• Project reports• Written tests

	<p>monitoring (field, laboratory and remote sensing)</p> <ul style="list-style-type: none"> • Operation and maintenance of tools and equipment • Water quality monitoring (theory and practice) • Water quality monitoring reports • Occupational safety and health in water quality monitoring 	
2. Manage surface water quality	<ul style="list-style-type: none"> • Surface Water quality challenges and issues • Surface water quality management plans • Implementation of surface water quality management plans 	<ul style="list-style-type: none"> • Observation • Interviewing • Oral questioning • Field study reports • Third party report • Written tests • Project report
3. Manage ground water quality	<ul style="list-style-type: none"> • Groundwater quality challenges and issues • Groundwater quality management plans • Implementation of ground water quality management plans 	<ul style="list-style-type: none"> • Observation • Interviewing • Oral questioning • Field study reports • Third party report • Written tests
4. Manage Storm and wastewater quality	<ul style="list-style-type: none"> • Storm water quality management • Domestic wastewater quality management • Agricultural wastewater quality management • Industrial wastewater quality management 	<ul style="list-style-type: none"> • Observation • Interviewing • Oral questioning • Field study reports • Third party report • Written tests

Suggested Methods of Instruction:

- Direct instruction

- Project
- Case studies
- Field trips
- Discussions
- Demonstration by trainer
- Practice by the trainee
- Laboratory exercises

Recommended Resources:

- Computers
- Stationery
- water sampling kit (manual, automated)
- sampling equipment (sampling bottles, boats)
- Standard operating procedures
- Portable water quality test kits (with Thermometers, pH, EC, turbidity,DO meters, microbial test kits for resent/absent etc)
- GIS Software
- Digital cameras
- GPS

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