

## COURSE DESCRIPTION

<b>Objectives</b>	The training aims to aware the technicians about the safe and effective practices in performing the operation and maintenance works that ensures their personal safety, the safety of equipment they are operating and the well being work environment they are working within.
<b>Contents</b>	Jordanian Guideline No. 502 Operating Instructions for the Personnel of Sewers Networks and further materials.
<b>Target Group</b>	Technicians, Engineers and operators who are working in the operation and maintenance of sewage networks in the water utilities
<b>No. of participants</b>	Maximum 20 Participants.
<b>Trainers</b>	Eng. Hafez Battah: head of sewage department of Jordan Water Company (Miyahuna) with 29 years of experience in the field of operation and maintenance -Eng. Abdelrahman Al-omari: Manager of operation and maintenance at Engicon with 41 years of experience in the field of O&M. -Eng. Abdelwahab Matar: Water and Wastewater expert at Engicon with 37 years of experience in the field of water and wastewater.
<b>Training Methods</b>	Lectures, site visits, discussions, videos, practical exercises,
<b>Training Language</b>	Arabic/English
<b>Date</b>	25-29 February, 2012
<b>Location</b>	Engicon O&M Training Center, Amman, Jordan
<b>Duration</b>	5 days (30 hours)
<b>Test</b>	Written test, min. 0.5 hour Multiple Choice Test
<b>Certificate</b>	Certificate will be issued by ACWUA, Engicon O&M and DWA to all attendees completing minimum of 85% of the total training hours.

## COURSE OUTLINE

<b>Day</b>	<b>Topic</b>	<b>Details</b>	<b>Time</b>
Day One, Introduction, Sewage Networks	<b>Introduction</b>	Welcome, Introduction and training plan discussion, Pre-course Test	<b>1.5</b>
	<b>Sewage Networks</b>	Types & Components of sewage networks Basic design criteria Wastewater characteristics  Responsibilities of sewage network operators	<b>3</b>  <b>1.5</b>
Day Two, Normal Operating & Monitoring Procedures, Operating Faults, Operation Expenditures, Monitoring of indirect discharge	<b>Normal Operating &amp; Monitoring Procedures</b>	Inspection and testing of the system	<b>1.5</b>
	<b>Operating Faults</b>	Principles for the course of action Recording and assessment of effect Reporting paths internal and external Determination of causes and introduction of measures Documentation and safeguarding of evidence Rectification of operating faults Cost recording and calculation of damage	<b>1.5</b>
	<b>Operation Expenditures</b>	Personal Safety Equipment Loading/Unloading and Transportation Safety signs and instructions Chlorine cylinder storage instructions Ventilation, Dealing with Chlorine at different locations Emergency response plan	<b>1.5</b>
	<b>Monitoring of indirect discharge</b>	Carrying out operational visual inspection Monitoring indirect discharge points, carry out mobile sampling and on-site measurements Applying indirect discharge cadastre	<b>1.5</b>

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Day	Topic	Details	Time (hour)
Day Three Safety& Health measurements, Administrative Procedures, Maintenance of Sewage Networks	<b>Safety&amp; Health measurements</b>	System hazards Selecting and handling personal protective equipments Operating safety facilities and maintaining their functional capability Describing the explosion hazards and taking measures for protection against explosion Traffic diversion and confined spaces	<b>3</b>
	<b>Administrative Procedures</b>	Reporting and documenting Building data base system Materials and commercial management GIS and modelling applications	<b>1.5</b>
	<b>Maintenance of Sewage Networks</b>	Preventative maintenance Cleaning techniques Trouble shooting	<b>1.5</b>
Day Four Maintenance of Sewage Networks, Site Visit	<b>Maintenance of Sewage Networks</b>	Rehabilitation & replacement of the sewage network Wastes from the sewer cleaning	<b>1.5</b>
	<b>Site Visit</b>	Practical training	<b>4.5</b>
Day Five Summary, Test and Closing	<b>Summary</b>	Working groups/ Case studies Course overview/ discussion	<b>2.0</b>
	<b>Feedback Evaluation</b>		<b>1.5</b>
	<b>Test Closing session</b>	Multiple Choice	<b>1.0</b>

**Total Training Hours: 30**

Water Utilities  
Management Capacity  
Building Program  
WUM-CBP

## O&M of Sewage Networks

25-29, February, 2012 Amman, Jordan

