

# WATER AND SANITATION FOR URBAN LOW-INCOME COMMUNITIES

## A masters-level professional training module

Providing water supply and sanitation services in slum communities and peri-urban areas presents enormous challenges to water utilities and municipal governments. Part of the problem is that engineers are often trained in “high-tech” solutions and technical analysis, but have no specific training around service delivery in low-income contexts. This module aims to give engineers and other professionals an understanding of urban low-income communities, and of how to provide water and sanitation services in such communities.

**What is this module?** It is a context-adaptable training course around provision of water and sanitation services in slums and peri-urban communities in low-income and low-middle-income countries. It centres around 45 hours of classroom time.

**What does the module comprise?** The module comprises a total of 16 units: see *Content Overview* overleaf. For each unit, the module materials comprise **a)** a Powerpoint Presentation, including “content” slides as well as slides to support discussion activities; and **b)** Lecturer Notes outlining the unit’s content and aims, and providing guidance on how to deliver the class. For some units additional support materials are provided. Recommended readings (all readily available via Internet) are also indicated; in particular, we recommend that all students should be provided with a copy of the WSUP “Urban Programming Guide” (available for free PDF download from [www.wsup.com](http://www.wsup.com), or for purchase as a printed book from [erl@wsup.com](mailto:erl@wsup.com)).

**How can the module be delivered?** The recommended delivery approach is full-time face-to-face over a period of 8 days. Highly intensive delivery within a single 6-day Monday-Saturday period is possible, but would require some content reduction. The module can be adapted to other schedules: for example 5 days full-time intensive, followed by 2 weeks part-time; or evenings over 3 weeks. The materials are not designed as an online course, but could be adapted for online delivery.

**Part of a masters programme, or stand-alone training?** The course is designed for delivery as a module within masters programmes in Water & Wastewater Engineering, Urban Planning, or other relevant areas. The course can also be delivered as stand-alone professional training (i.e. not as part of a wider academic programme).



**Adaptation to local context.** The module materials cover core concepts which are internationally relevant, and we strongly recommend that this core content should be maintained. But the module is also designed in a way that allows and *encourages* adaptation to local contexts: for example, if this module is delivered in Nairobi, it is critical that students consider the institutional framework for water and sanitation in Kenya, and the specific characteristics of slum communities in Nairobi. Examples of components which allow context adaptation include **a)** discussion activities which encourage students to consider the situation in their own city; **b)** slots for invited speakers who can talk about local experience; and **c)** project activities which can be adapted to focus on the local context. The course should include a field trip to a local low-income community, with students carrying out a very short questionnaire survey and later analysing their data.

## Content Overview

UNIT	TITLE	TYPE
1	WASH in urban low-income communities: an overview	core content
2	Urban low-income communities: the wider context	core content
3	Water supply for urban low-income communities: models of service delivery	core content
4	Water supply for urban low-income communities: achieving social fairness and commercial viability	core content
5	Water supply for urban low-income communities: management models	flexible content
6	<i>Field trip</i>	core content
7	Understanding people's needs and aspirations	core content
8	Sanitation services for urban low-income communities: toilet technologies	core content
9	Sanitation services for urban low-income communities: faecal sludge management	core content
10	Sanitation services for urban low-income communities: management models	flexible content
11	<i>Invited speaker + extended discussion</i>	flexible content
12	Behaviour change and marketing	core content
13	Monitoring and evaluating WASH services	flexible content
14	Institutions, accountability and finance	core content
15	Project: Planning a WASH intervention	flexible content
16	Project: Planning a WASH intervention	flexible content

**Teaching staff requirements.** We recommend that this course be delivered by a Lead Lecturer supported by 1 or 2 other lecturers, as well as by invited speakers. The Lead Lecturer should have a good knowledge of water and sanitation services delivery in urban low-income communities. WSUP is happy to provide advice on this and other aspects of delivery (erl@wsup.com). If desired, WSUP can deliver this module as a charged consultancy service; please contact us for details.

**Teaching approach.** This course is designed to include varied discussion activities, including small-group discussions, whole-group discussions and debates, role-plays, and different types of project activity. Within any 3-hour session, we would recommend a maximum of 1 hour of "powerpoint lecturing", and this would probably be broken into smaller blocks (e.g. 15 minutes start-up discussion, 30 minutes lecturing, 30 minutes discussion, 15 minutes lecturing, 15 minutes break, 15 minutes lecturing, 60 minutes extended discussion or project activity). We strongly recommend an interactive classroom atmosphere, where students feel free to ask questions at any time. We recommend that students should be provided with a printed handout of the powerpoint slides at the end of each session. [See also "Teaching Tips" in the Lecturer Notes for each unit.]

**Assessment.** These module materials do not include formal assessment tests, since formal assessment is governed by the specific regulations of any given academic institution. If formal assessment is required, one option is to offer students a choice of three essay questions, for completion in their own time, around analysis of a particular question in their specific national/city context, or around analysis of one or several case studies from other countries, looking at potential applicability in their context. This is just one assessment possibility among many.

**Credits.** This module was developed in 2014/2015 by the Water, Engineering & Development Centre (WEDC) at Loughborough University, for and in collaboration with Water & Sanitation for the Urban Poor (WSUP). The work was funded by UKaid from the Department for International Development, under a wider grant to WSUP. Specialists from both WEDC and WSUP had substantial input to module design and development. Key WEDC contributions (in alphabetical order) were from Louise Medland, Brian Reed, Pippa Scott, and Ian Smout. Key WSUP contributions (again in alphabetical order) were from Guy Norman and Regine Skarubowiz. Other important inputs were from Richard Franceys and Valentina Zuin. We thank the Universidade Eduardo Mondlane (Maputo, Mozambique), where an early version of this module was piloted in 2014 within the masters programme led by Dr Nelson Matsinhe.

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