

Summary Information

Module Code	6305CIV
Formal Module Title	Water Supply and Wastewater Management
Owning School	Civil Engineering and Built Environment
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 6
Grading Schema	40

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Khalid Hashim	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
Manolia Andredaki	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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Teaching Responsibility

LJMU Schools involved in Delivery
Civil Engineering and Built Environment

Learning Methods

Learning Method Type	Hours
Lecture	44
Tutorial	22

Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

Aims	To develop and understanding of current practice and design in the treatment of water and wastewater and design of water supply.To develop an understanding of the characteristics of wastewaters, and associated sludges, and the selection, process design and operation of treatment works to meet discharge standards.To contextualise water and wastewater treatment within the overall management of public water supply and sanitation.
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Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Critically appraise engineering and scientific principles to evaluate proposals and designs for water treatment, wastewater treatment and sludge treatment (utilisation and disposal).
MLO2	Appreciate and appraise the current problems in water supply and wastewater treatment management and suggest improvements.
MLO3	Assess the sustainability and design water treatment facilities either using standard (biological) or more advanced treatments technologies.

Module Content

Outline Syllabus
Organisational Framework: Global overview; SDG's impact water; Drinking water quality and water treatment standards. Water Supply: Water resource management due to climate change and in water scarce countries, Physico-chemical and biological properties of drinking water and treatment required; Water supply network analysis, design and optimization, the Cross Method. Water Supply Treatment Processes and plant management: Legislation and regulations on water treatment processes; Selection, Design and operation of Water treatment plants. Operational and maintenance tasks, hygiene and protection. Water sampling and examination: physical, chemical and biological. Wastewater Treatment: European and national policy on wastewater treatment; types of trade effluent; Sewer network: flow and design; design and operation of wastewater treatment plants and Physico-chemical and biological treatment processes (primary, secondary and tertiary). Design of sedimentation tanks, phytoremediation; sludge management and the design and operation of treatment and disposal systems.

Module Overview

Additional Information

The module provides a thorough grounding in the design and operation of water and wastewater treatment plants and water supply networks. It ensures the awareness, competencies and methodology for consideration of specific issues in water and wastewater management.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Centralised Exam	Examination	70	2	MLO1, MLO2
Report	Design and evaluation task	30	0	MLO1, MLO2, MLO3