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Online course Biological Wastewater Treatment: Principles, Modelling and Design

IHE Delft Institute for Water Education

Certificate / Diploma Short course Delft

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Course description

Qualification Certificate

Field of study Agriculture and environment

Course summary This online course covers the latest developments on biological wastewater treatment and their principles, compiled in a lecture package including around 40 hours of video-recorded lectures.

Course description The knowledge and understanding of wastewater treatment has advanced to a fundamentally-based 'first principles' approach embracing chemistry, microbiology, physical and bioprocess engineering, and mathematics. This course integrates the postgraduate course material of professors from research groups around the world that have contributed to the advances in wastewater treatment technologies. The postgraduate material has been compiled in a text book and a DVD package with more than 40 hours of video-recorded lectures by the author professors, and tutorial exercises for self-study, available to the participants particularly from developing countries where access to advanced level courses in wastewater treatment is not readily. The course covers different topics of major importance ranging from fundamental principles on microbial metabolism to biological removal of organic matter, nutrients and pathogen removal. It also addresses operational aspects (such as toxicity, bulking sludge and process control) and tackles recent developments on wastewater treatment concerning innovative nitrogen removal technologies (such as Anammox), membrane bioreactors (MBR), and biofilm reactors.



Study subjects	Wastewater treatment development; microbial metabolism; wastewater characterization; organic matter removal; nitrogen removal; innovative nitrogen removal; phosphorus and pathogen removal; aeration and mixing; toxicity; bulking sludge; final settling; membrane bio-reactors; anaerobic wastewater treatment; modelling biofilms; biofilm reactors.
Course objectives	Upon completion of this curriculum, the modern approach of modelling and simulation to wastewater treatment plant design and operation - be it activated sludge, biological nitrogen and phosphorus removal, secondary settling tanks or biofilm systems - can be embraced with deeper insight, advanced knowledge and greater confidence.
ECTS credits	6.00
Duration	22 week(s) part-time
Language of instruction	English
Instruction modes	design project, individual assignment, self study, tutorial
Accreditation	-

About the institution

Department IHE Delft

Information about the institution IHE Delft Institute for Water Education is the largest international graduate water education facility in the world and the only institution in the UN system to confer accredited MSc degrees and promote PhDs. It offers degree programmes, short courses, online courses and tailor-made training. Since 1957 the Institute has provided graduate education to more than 15,000 water professionals from over 160 countries. More than 175 PhD candidates were promoted. IHE Delft is at the centre of a vast international network of water related institutions, and functions as an interface between knowledge networks and centres, public and private sector organizations, scientific and professional associations and other members of the international water community. The Institute runs a substantial number of joint MSc programmes implemented in partnership with universities around the globe. These joint programmes combine the strengths of the collaborating institutions and deliver either multiple degrees or a joint degree.

Admission

Admission requirements	<ol style="list-style-type: none"> 1. Several years of relevant working experience 2. Academic Bachelor's degree or equivalent qualification in a relevant field from a recognised university.
Language requirements	<p>IELTS overall band 6</p> <p>TOEFL internet based 87</p> <p>TOEFL paper based 999</p>
Professional experience required	-



Duration	22 week(s) part-time		
	Start date EU/EEA Students Non-EU/EEA students		
Application deadlines	2 Sep 2019	2 Aug 2019	2 Aug 2019
	6 Jan 2020	6 Dec 2019	6 Dec 2019
	7 Sep 2020	7 Aug 2020	7 Aug 2020
	Year EU/EEA Non-EU/EEA Institutional		
	2019 (PT)	€ 1242 € 1242	n.a.

In short, the following rules apply:

Tuition fees	<ul style="list-style-type: none"> • The "EU/EEA rate" is the regular fee for students from within the EU/EEA. • The "non-EU/EEA rate" is the rate for students from outside the EU/EEA. • The "institutional rate" is for all students who have already obtained a bachelor's or master's degree and who want to start a second programme leading to a degree at the same level or at a lower level. • Note that FT, PT and D stand for "full-time", "part-time" and "dual", respectively.
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Make sure you contact your institution to find out what rate applies to you. The rates listed here are estimates.

Scholarships	-
	For more scholarships, visit: www.grantfinder.nl

Course website	More information about the course
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Contact

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IHE Delft

Contact information for the institution

Student Affairs

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Telephone number
Course website
Institution website
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