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Tracer Hydrology and Flow Systems Analysis

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 In this course, natural flow and groundwater flow patterns will be analysed using various tracer signals. In addition, emphasis will be put on Toth's description of hydrological flow systems.

Course description This course treats different methods to analyse and assess hydrological flow systems. Special attention will be given to hydrochemical and tracer hydrological approaches (incl. environmental isotopes) to delineate flow systems and understanding flow patterns in the environment. The use of tracer techniques will illustrate the determination of flow pathways, residence times of water, and the hydraulic properties of flow systems and the mixing of different water compartments.

Study subjects The course treats different methods to analyse and assess hydrological flow systems. Special attention will be given to hydro-chemical and tracer hydrological approaches to delineate flow systems and understanding flow patterns in the environment. The use of tracer techniques will illustrate the determination of flow pathways, residence times of the water, the hydraulic properties of flow systems and the mixing of different water compartments. Also, characteristics of the natural flow field will

Course objectives Upon completion of this module, the student has: • background and application knowledge of the concepts of tracer hydrology, with emphasis on environmental isotopes; • background and application knowledge of the concept of hydrochemical facies analysis; • gained practical experience in independently using these methodologies to quantitatively assess properties of



and processes and their interactions in hydrological flow systems; • the ability to carry out comprehensive hydrological flow systems

ECTS credits 5.00

Duration 3 week(s)
full-time

Language of instruction English

Instruction modes computer exercise, group assignment, lecture, workshop

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

1. Preferably 2 to 3 years of practical or research work experience.
2. Relevant wo bachelor (academic bachelor) BSc degree or equivalent qualification in a relevant field from a recognised university.

Language requirements

IELTS overall band 6
TOEFL internet based 87
TOEFL paper based 999

Professional experience required -

Duration 3 week(s)
full-time

Application deadlines

	Start date EU/EEA Students	Non-EU/EEA students
	2 Mar 2020	2 Feb 2020

Year EU/EEA Non-EU/EEA Institutional



2019 (FT) € 2910 € 2910 n.a.

In short, the following rules apply:

- Tuition fees
- 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.

Make sure you contact your institution to find out what rate applies to you. The rates listed here are estimates.

Scholarships Orange Knowledge Programmes (OKP), MENA Scholarship Programme , Netherlands Fellowship Programmes (NFP)

For more scholarships, visit: www.grantfinder.nl

Course website [More information about the course](#)

Contact

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Contact information for the study programme Admission and Fellowship Officer

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IHE Delft

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Telephone number

Course website

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Institution website

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