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Water Resources Assessment and Modelling

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 Water resources assessment aims to measure quantity and quality of the water in a system, including data collection, data validation, and water accounting techniques, using both ground and remote sens

Course description Water resources assessment employs different techniques to estimate water supplies, and the multiple uses of water in a system. Different technologies and tools are employed to assess quantity and quality of water resources. This starts with data collection and validation techniques of water resources data, both from ground measurements as well as remote sensing data. Sometimes, extrapolation and interpolation of data is needed to provide information in un-gauged basins. The knowledge of different water quality monitoring techniques is used to assess the chemical and ecological status of the water, and hence the suitability for different water uses (agriculture, hydropower, domestic, environment, etc.) Water consumption and productivity by different sectors are estimated to guide informed water allocation and water management decisions. Water demands and actual water uses are calculated for the different sectors: agriculture, hydropower, domestic, recreation, as well as environment flows. Knowing water supplies and uses, different water accounting techniques are employed to obtain an in-depth understanding of the system performance and productivity.

Study The main components of the course are: (i) Surface and ground water resources assessment, including: data validation, time series analysis, and groundwater abstraction, (ii) Water quality monitoring and assessment, (iii) Water using activities: agricultural, domestic,



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| subjects | hydropower, and environmental water requirements, (iv) Water accounting: remote sensing data for water management, catchment water balance, water productivity and water valuation |
| Course objectives | Upon the successful completion of the module the participants will be able to: Describe different types of water resources data, generated from ground and RS measurements. Apply diverse methods of data processing and data validation for water resources assessment. Quantify the different components of the water resources spectrum (rainfall, river flow, groundwater), an assess availability and access at different scales. Describe and apply different methods of water quality monitoring and |
| ECTS credits | 5.00 |
| Duration | 3 week(s) full-time |
| Language of instruction | English |
| Instruction modes | case study, excursion, individual assignment, lecture, workshop |
| Accreditation | - |

About the institution

Department IHE Delft

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

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| Admission requirements | 1. several years of relevant working experience |
| Language requirements | IELTS overall band 6 TOEFL internet based 87 TOEFL paper based 999 |
| Professional experience required | - |
| Duration | 3 week(s) full-time |



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| Application deadlines | Start date | EU/EEA Students | Non-EU/EEA students |
| | | 2 Mar 2020 | 2 Feb 2020 |
| | Year | EU/EEA | Non-EU/EEA |
| | | 2019 (FT) | € 2910 |
| | | € 2910 | n.a. |
| | | | Institutional |

In short, the following rules apply:

- | | |
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| 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.

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| Scholarships | Orange Knowledge Programmes (OKP), MENA Scholarship Programme , Netherlands Fellowship Programmes (NFP) |
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For more scholarships, visit: www.grantfinder.nl

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| Course website | More information about the course |
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Contact

C. Schutter-Brakel

Contact information for the study programme fellowship and admission officer

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IHE Delft

Contact information for the institution

Student Affairs

info@un-ihe.org

Telephone number

Course website

[More information about the course](#)



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