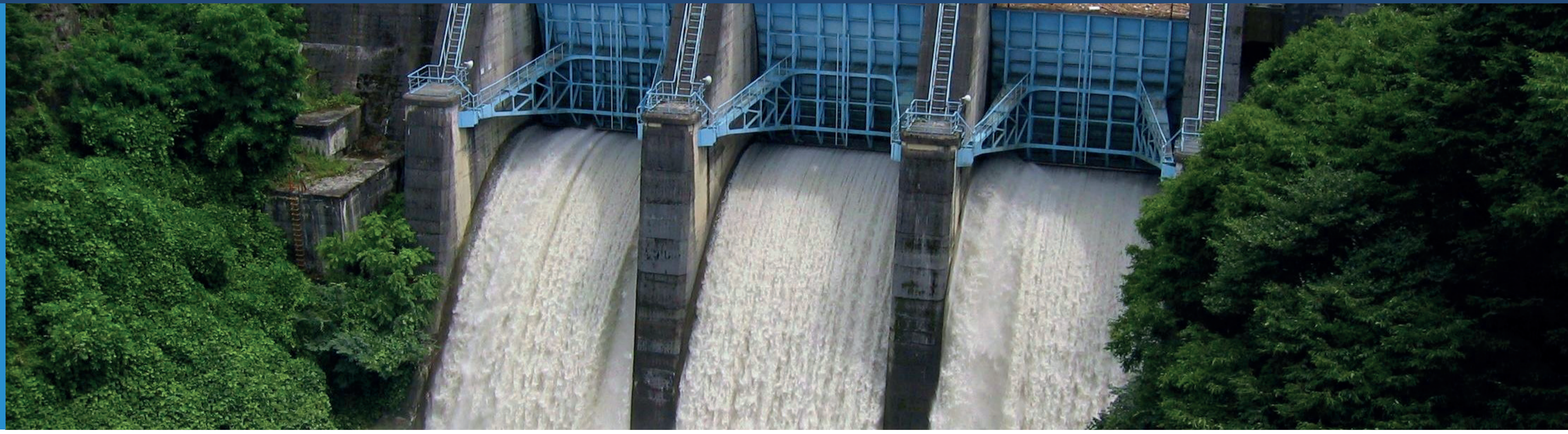


Master Hydroscience and Engineering



Profile

This master course is designed to broaden and intensify academic and practical knowledge in the fields of management, conservation and development of water resources within different climatic zones and construction and operation of water management systems. The students will be enabled to cope with future professional demands within research and practice worldwide. The master programme meets international standards required to pursue and develop careers within national and international administrations and organisations. The master course provides the basics for engagement in development and consultation agencies, to head the operation of water management systems and to contribute to transdisciplinary research tasks within the entire field of hydro sciences.



Study Contents

A wide range of individual modules assembles the course going through three phases in 4 Terms. A module may comprise a number of lectures, exercises, seminars, workshops or excursions. Phase I (Term 1) contains basic modules, of which some are mandatory and some can be selected. For further advanced courses in phase II (Term 2 / 3), students may choose optional modules to acquire their desired specialisation. Involved institutes and chairs are amongst others: Hydrology, Meteorology, Hydrochemistry, Limnology, Urban and Industrial Water Management, Water Supply, Groundwater, Waste Management and Circular Economy, Civil Engineering, Hydraulic Engineering, Soil Sciences, Site Ecology, Geodesy, Environmental Development and Risk Management as well as local and international research centres and institutions. A written thesis in Term 4 (phase III) is going to complete the Master.

Requirements

Applicants have to prove a high above average Bachelor Degree or an equivalent education with 6 semesters completed in natural sciences or engineering. The course requires a strong scientific commitment and high individual motivation of the prospective students. The language of the course is English. Therefore, non-native speakers have to provide a certificate (e.g. TOEFL, IELTS, Unicert III) demonstrating their proficiency in English (level C1 of the Common European Framework of Reference for Languages CEFR).

Scholarships

Several funding programmes are offering financial support like scholarships. For example, DAAD supports this master course at TU Dresden within the framework of the DAAD-EPOS-Programme.

Modules

Credits	5	5	5	5	5	5
Term 1	Statistics	Climatology and Hydrology	Group 1: Soils, Ecology, Hydrochemistry		Group 2: Hydromechanics, Hydraulic Engineering, Geodesy	
Term 2	Optional Modules	Optional Modules	Optional Modules	Optional Modules		Optional Modules
Term 3	Study Project Integrated Water Resources Management		Optional Modules	Optional Modules		Optional Modules
Term 4	Master Thesis					

■ Mandatory Modules - Basics
 ■ Elective Modules - Basics (choose 2 out of 3)
 ■ Optionale Modules
 ■ Mandatory Study Project
 ■ Master-Thesis

Optional Modules

- Integrated Water Resources Management I & II
- Climate Change
- Climate Systems and Climate Modelling
- Communication and Conflict Management
- International Water Issues
- Soil Water
- Ground Water
- Watershed Management I & II
- Hydrodynamics
- Urban Water I & II
- Drinking Water Supply
- Flood Risk Management I & II
- Aquatic Ecology and Ecotoxicology
- Water Quality and Water Treatment
- Intership Hydrosiences
- Circular Economy

Clients

This degree course addresses especially students from developing and emerging countries. Specific water related problems, i.e. limited drinking water and raw water resources as well as the devastating impacts of hydrologic extremes like droughts or flood disasters connected with heavy erosions, are subject of several modules.

