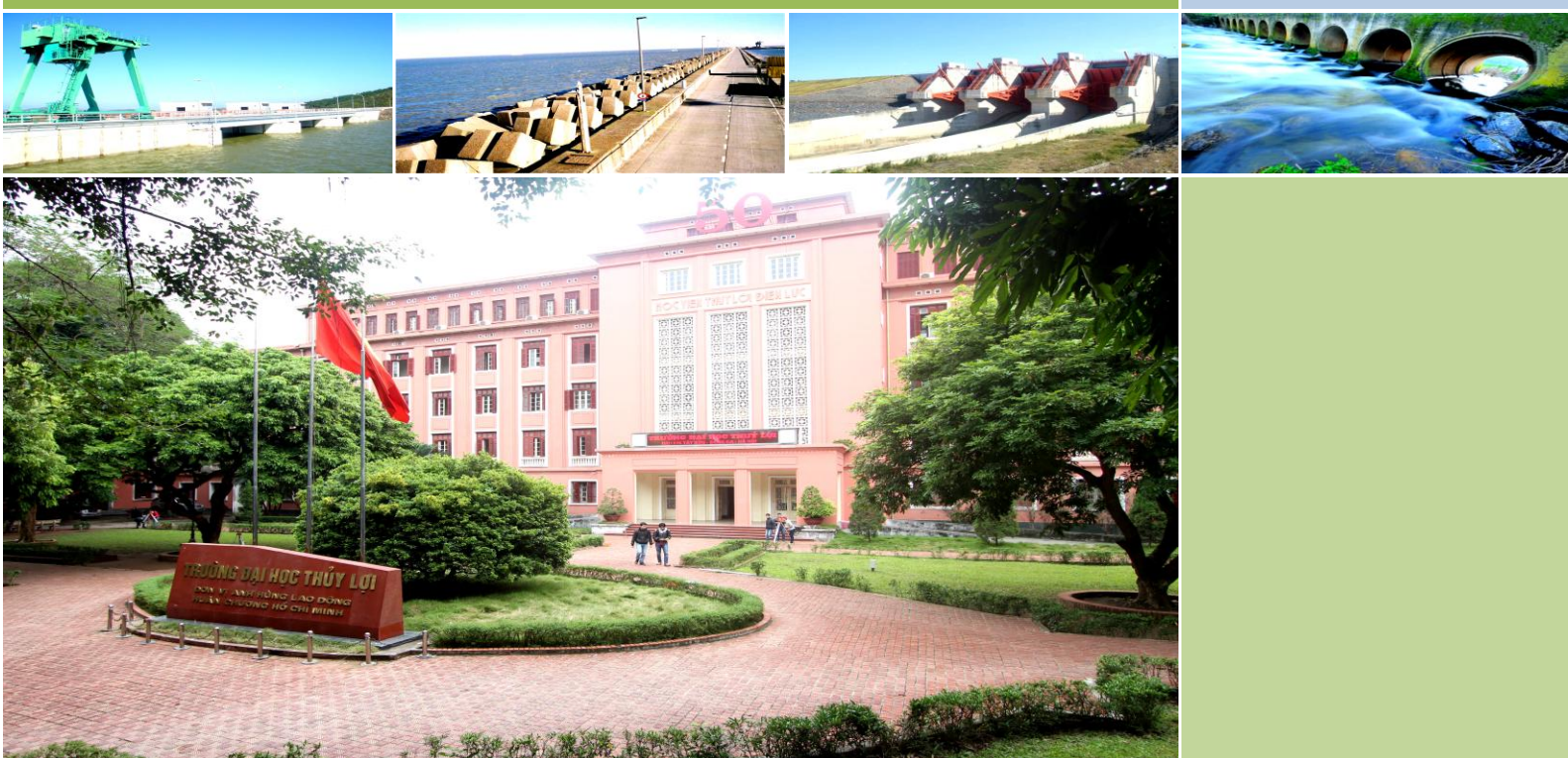


INTERNATIONAL MASTER PROGRAMMES IN INTEGRATED WATER RESOURCES MANAGEMENT, COASTAL ENGINEERING AND MANAGEMENT, AND DISASTER MANAGEMENT



GENERAL INFORMATION

The International Master Programmes in Integrated Water Resources Management (IWRM), Coastal Engineering and Management (CEM) and Disaster Management (DM) were established under the framework of the project **"Improvement of Higher Education in Water Management in view of Climate Change in Vietnam"** funded by the Netherlands Government (through NUFFIC).

Vietnam is witnessing an increase in the number of local and international firms operating in water resources management and related fields. Recognizing the growing demand of these organizations for high-quality local professionals, these Master programmes aim at providing an international-standard education for students in order to support their work performance as well as to open up various directions for further research.

These programmes offer 3 selections of specialized courses and disciplines across its study areas, with the right balance of practical knowledge and academic excellence, designed to meet the current and future needs of the job market both locally and internationally.

On top of that, exposure to an international study environment, world-class professors, state-of-the-art materials and an interactive curriculum will help students to broaden their academic horizon and career possibilities.



International Study Environment

With the aim of exposing the students to advanced teaching and research methodologies in the world as well as familiarizing them with the communication and professional practices in an international environment, all courses are conducted completely in English. All of the lecturers and instructors have been trained abroad. In addition, with the involvement and support from distinguished academic institutions all over the world, especially from the Netherlands, the lectures and practical activities are designed to give students the best international experience without leaving the country.

Modern Facilities



Lecture rooms of the International Master Programmes are equipped with modern facilities such as air-conditioners, projectors, internationally standardized sound and light systems, ensuring the best conditions for students to develop their study and research capacity. Labs of international standard are available, equipped with state-of-the-art equipment. Students enrolled in one of these Master Programmes are also given priority in receiving supporting materials such as reference books, case-studies and software applications.

Stimulating and useful fieldtrips



All International Master Programmes include fieldtrips to the “hot spots” in the country, exposing students to the current real issues which closely relate to their disciplines. These trips aim to help the students figure out research directions as well as enrich their practical experience.

Incentive policies



All students of the International Master Programmes are offered many chances of

- Participating in exchange research programmes between WRU and its international partners
- Taking part in WRU’s international research projects
- Attending domestic and international workshops and seminars
- Receiving scholarships for outstanding achievements.

PROGRAMMES DESCRIPTION

Thanks to the long-standing close collaboration of leading professors and experts from: Delft University of Technology (TU Delft), University of Twente (ITC), UNESCO-IHE, Deltares (all from the Netherlands) and Water Resources University (Vietnam), the content of the courses has been designed based on the framework of relevant Master Programmes conducted in universities across the Netherlands, adapted to international standards as well as specific context and conditions of Vietnam.

The program consists of 3 specializations, tailoring to each student's needs and aspirations.

1. INTEGRATED WATER RESOURCES MANAGEMENT

The programme is designed for young and mid-career professionals from both government institutions as well as the private sector (engineering, management, consultancy, ...) who are related in water and environmental science, engineering, planning, and who are dealing with water resources management.

The Master programme in **Integrated Water Management** enables the students to develop and apply an integrated approach to address a wide range of water management issues. The programme provides students with advanced knowledge, skills and experience for conducting a holistic and integrated analysis of water resources systems with focus on a river basin approach. This is underpinned by the sound understanding of the interplay between bio-physical processes, water availability and demand, water allocation to competing uses and users, water quality, climate variability and change, water governance and sustainable development. The students are equipped with advanced knowledge and skills on various data collection and experimental techniques, hydrological and water resources modeling, water resources planning, conducting independent research and working in multi-disciplinary groups/teams, translating their observations into meaningful conclusions and practically applicable recommendations.

After you have successfully completed the programme and you have received your MSc degree you will be an expert in Integrated Water Resources Management, have a good understanding of the information requirements for water resources assessment, water management and provide relevant information required for informed decision making for water resources management and water governance.

2. COASTAL ENGINEERING AND MANAGEMENT

In Vietnam developments in coastal zones go very fast and often lead to ecologically unhealthy and unsustainable situations. Also coasts are very vulnerable to disasters; although disaster management is necessary, preventing disasters is to be preferred. Coastal engineering provides understanding of coastal protection methods, and improves them (like improvement of sea dikes). These developments together with the complexity of coastal processes, ask for tailored solutions where in depth knowledge is needed for solving problems and developing sustainable solutions.

The Master Programme in **Coastal Engineering and Management** has been developed specifically for young and mid-career professionals from both government institutions as well as the private sector (engineering, management, consultancy). After a joint introductory part, in which students get acquainted with the essential natural and societal processes and engineering aspects in coastal zones and islands, two specializations are offered: Coastal Engineering and Coastal Zone Management.

The Coastal Engineering specialization provides students with specialized and modern knowledge on coastal engineering including surveying, planning, designing, building and operating coastal and island structures (dikes, breakwaters, groynes, etc.).

The Coastal Zone Management specialization will equip students with expertise in coastal and island management, including natural processes, ecosystems, institutions, policies, socio-economic activities and their impacts on coastal environment, regulations and effective management techniques and tools for managing coastal and island resources and socio-economic activities.

In addition, the program will provide students with opportunities for improving research, project management and communication skills, working in interdisciplinary teams and the chance to work with regional and international experts.

After you have successfully completed the programme and you have received your MSc degree you will be an expert in Coastal Engineering and Management. You will have a good understanding of the requirements for coastal engineering projects in the context of sustainable coastal zone management. Depending on your specialization, you will be able to provide relevant information required for informed decision making for coastal zone management, or will be able to design and implement coastal engineering projects.



3. DISASTER MANAGEMENT

This new English MSc is for students who want to become experts in applying the latest methods for the modeling and assessment of natural hazards and disaster risk and to use this information in disaster management. The programme is designed for young and mid-career professionals from both government institutions as well as the private sector (engineering, consultancy, insurance...) who are active in water and environmental science, engineering or planning, and who are dealing with natural hazards, risk mitigation or civil protection.

The Master Programme in **Disaster Management** exposes you to different types of hazards and the disasters that they can cause. You will gain insight in methods to evaluate how (hydrological) hazards may change in the future due to e.g. climate change, land-use change, socio-economic developments and urbanization. You will learn how to quantify hazards in terms of severity – their magnitude – and to assess how much damage and casualties such an event may cause in case it affects a community of a certain size and vulnerability. You will see what hazard and disaster risk information is used for the evaluation of risk reducing measures, disaster preparedness planning and post-disaster redevelopment.

Disaster Management is multi-disciplinary and requires understanding of the hazards on one hand and of socio-economic processes on the other. The programme offers a mix of theory and practice and you will be offered a series of choice topics to allow you to specialize in one direction or another.

After you have successfully completed the programme and you have received your MSc degree you will be competent in modeling hydro-meteorological and hydraulic hazards, have a good understanding of the information requirements for hazard and risk assessment, evaluate assessments made by other experts, and provide relevant hazard and risk information required for informed decision making, e.g. for spatial planning, disaster risk reduction and early warning.

ADMISSION

Applicants should have a Bachelor degree in a relevant discipline, such as: Water Resources Engineering, Coastal Engineering, Marine Engineering, Oceanography, Disaster Management, Hydrology and Water Resources, Environmental Engineering, Infrastructure Engineering, Water Supply and Sewerage, Natural and Environmental Economics and Construction Economics, Natural Disaster Engineering, Civil Engineering, Construction Technology Engineering, Hydropower and Renewable Energy Engineering, Agriculture, and Forestry.

Training duration

18 months (full-time) or 24 months (weekends). Enrollment in March every year.

How to apply

Please visit: NICHE.wru.edu.vn for more information

Entrance examination

- 1) Foreign language: English (Applicants with IELTS score at 5.0 or above, or TOEFL score at 500 or above are exempt from this test)
- 2) Basic subject: Mathematics
- 3) Foundational subject: Fluid mechanism (Hydraulics), or Material Strength, or Engineering Hydrology, or Introduction to Coastal Engineering

CURRICULUM

	Disaster Management (DM)	Coastal Engineering And Management (CEM)	Integrated Water Resources Management (IWRM)
Semester 1	PHILOSOPHY		
	ACADEMIC SKILLS 1 (writing)		
	Fundamental of Disaster Management	Fundamentals of Coastal Processes	Principles of IWRM
	Advanced Hydrology	Introduction to CZM	Water Resources Systems
		Data acquisition in CZ	
Semester 2	GIS AND RS*		
	Advanced River Hydraulics	Estuary and Coastal Hydrodynamics	Water Governance
	ACADEMIC SKILLS 2 (research skills)		
	FIELD VISIT and GROUP WORK		
Semester 3	Disaster Risk Assessment		Water Economics
	Electives (program)	Coastal Structures	Electives (program)
		Electives (program)	
	ELECTIVES (open)		
Semester 4	ACADEMIC SKILLS 3 (research methodology and proposal writing)		
	MSc RESEARCH		

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