

# Erasmus Mundus master's degree in Flood Risk Management

**Erasmus Mundus master's degree in Flood Risk Management**, coordinated by the **IHE Delft Institute for Water Education** and with the **UPC as a participant**, provides an integrated approach to flood risk management that seeks to reduce human and socioeconomic losses caused by flooding. The need to adopt an integrated, holistic approach to flood risk management is reflected in Directive 2007/60/CE (RD 903/2010 of 9 July, on flood risk assessment and management). To date, European programmes have dealt with a variety of technical aspects but failed to propose integrated management; in this respect, the Erasmus Mundus master's degree in Flood Risk Management constitutes a breakthrough in hydraulics training in Europe.

It is offered by a consortium of institutions: the UNESCO-IHE Institute for Water Education (the Netherlands), the Technical University of Dresden (Germany), the University of Ljubljana (Slovenia) and the UPC.

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## GENERAL DETAILS

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### Duration and start date

2 years, 120 ECTS credits. Starting September

### Timetable and delivery

Mornings and afternoons. Face-to-face

### Scholarships

Please check the official website of this master's degree for more information on EU scholarships:

[www.floodriskmaster.org/scholarships](http://www.floodriskmaster.org/scholarships)

### Language of instruction

English

Information on [language use in the classroom and students' language rights](#).

### Official degree

[Recorded in the Ministry of Education's degree register](#)

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## ADMISSION

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### General requirements

[Academic requirements for admission to master's degrees](#)

### Places

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### Pre-enrolment

To enrol for an interuniversity master's degree coordinated by a university other than the UPC, you must enrol through the coordinating university:

[IHE Delft Institute for Water Education \(Delft, the Netherlands\)](#)

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## PROFESSIONAL OPPORTUNITIES

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### Professional opportunities

On completion of the course, students will be able to analyse the reciprocal relationships between physical systems, institutional frameworks and the socioeconomic environment, and identify future social and climatic pressures and

needs and the consequent trends in system management; apply specific practical skills, such as the ability to identify the main physical processes in a given river basin or coastal zone and their interaction with the associated assets and receptors; identify the links between all issues related to flooding in order to apply an integrated approach to the sustainable management of floods using the best decision-making support tools; review scientific literature and carry out independent research; apply sophisticated hydroinformatics and modelling tools and best practices to address the problems of flood risk management; and occupy positions of responsibility as flood risk managers.

## Competencies

### Generic competencies

Generic competencies are the skills that graduates acquire regardless of the specific course or field of study. The generic competencies established by the UPC are capacity for innovation and entrepreneurship, sustainability and social commitment, knowledge of a foreign language (preferably English), teamwork and proper use of information resources.

The **learning objectives** (acquisition of knowledge) for the students include:

- A broad and cross-boundary scientific knowledge on flood risk management;
- A comprehensive knowledge base and understanding of the current theory and practice relating to flooding and flood management;
- The fundamental knowledge leading to the understanding of socio-economic issue related to flooding;
- A broad scientific knowledge about conservation, restoration and management measures to overcome challenges imposed on water by humans and by climate change, and;
- An extended knowledge on a basin-wide approach to flood risk management.

The acquired **competencies** (application of knowledge) include the ability to:

- Analyse the reciprocal relationships between the physical system, the institutional framework and the socio-economic environment, identifying future social and climatic pressures and needs and the consequent trends in system management;
- Apply specific practical skills, such as identifying the major physical processes in a given river basin or coastal zone and their interaction with the associated assets and receptors;
- Identify the links between all issues related to flooding in order to apply an integrated approach using the best tools to support decision making for the sustainable management of floods;
- Review scientific literature and carry out independent research (such as writing a state of the art paper based on research and practice literature);
- Apply sophisticated hydroinformatics and modelling tools and best practices to address the problems of flood risk management;
- Occupy an independent and responsible position as a flood risk professional;
- Communicate his/her knowledge and research results to the scientific and non-scientific communities (such as presenting papers/posters to scientific congresses, general lectures to policy makers and interested non-specialists);
- Acquire independently further knowledge and techniques, and operate in a team.

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## ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS

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### European programme

Erasmus Mundus

### UPC school

[Barcelona School of Civil Engineering \(ETSECCPB\)](#)

### Participating institutions

[Universitat Politècnica de Catalunya \(UPC\)](#)

[IHE Delft Institute for Water Education \(Delft, the Netherlands\)](#) - **coordinating** university

[Technische Universität Dresden](#)

[Univerza v Ljubljani](#)

### Academic coordinator

[Allen Bateman](#)

December 2021. [UPC](#). Universitat Politècnica de Catalunya · BarcelonaTech