

# DigWater – Digital solutions for sustainable water management

## Summary

This project aims to develop a Minor to be offered at the Master level with 18 ECTS on the topic Digital solutions for sustainable water management (DSSWM). Specific objectives are:

- To increase the topics that students can learn during their Master in the field of DSSWM;
- To promote experience exchange at an international level by promoting the cooperation with peers (students) and, eventually, short-term mobility.

The achievement of these objectives requires:

- To revise and update the existing curricular units by introducing new modules (components) with contributions from other partners;
- To maintain as much as possible the structure of existing MSc programmes, in order to ensure the long-term sustainability of the collaboration;
- To eventually create new curricular units to accommodate novel and emerging issues not yet covered by existing ones.

Currently, MSc courses are run with different academic calendars (Fig.1), with only a few periods of lectures superimposition. Courses are mainly organized in self-standing curricular units that focus on specific topics. It is clear there is an intrinsic difficulty in providing a mobility offer mainly based on synchronous activities and full courses. In this context, this proposal envisions a combination of asynchronous and synchronous activities for exchanging course modules rather than full courses. Some modules can be replaced by those offered in the DSSWM minor.

Three main strategies will be followed to provide these modules:

- *Sharing existing teaching material.* With this approach, the teaching material that is already part of the course of one partner is made available to students of other partners via METACAMPUS. The added value of this approach is that students can have access to a larger pool of topics for their studies.
- *Co-creation of new teaching material.* Similar to (i) the added value is to have a larger pool of topics; however, the teaching material is specifically co-created by 2+ partners, and focuses on topics that need the sharing of expertise between 2+ specialists. Also, in this case, the METACAMPUS is used.
- *Delivering of modules devoted to the cooperation between students* (blue modules in Figure 1). The added value is the cooperation with international peers. Students will attend online synchronous activities.

The involved partners have a strong background in developing international cooperation in teaching. The local coordinator (Polito) is involved in the Unite! project since 2021, and has actively worked within the Community in the development of joint courses and masters. The local coordinators from Aalto and KTH are already conducting co-developed and co-taught courses on groundwater engineering, and are willing to expand the scope of their collaboration. The local coordinators from IST and UPC are specialists in several complementary subjects for the proposed Minor: water distribution networks, CFD, turbines and pumping systems.

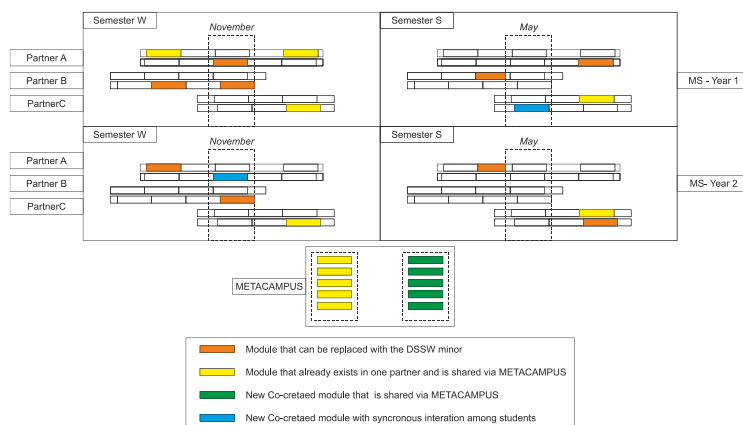


Figure 1. Minor programme design.



### Project Reference

Unite! seed funding

### Leading Institution

Politecnico di Torino (Italy)

### Partners

ULisboa – Universidade de Lisboa (Portugal), UPC – Universitat Politècnica de Catalunya · Barcelona Tech (Spain), Aalto University (Finland), KTH – Royal Institute of Technology (Sweden)

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### CERIS Research Team

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### Funding

UNITE!

### Period

2025-2026

### Total

40 000.00€

### CERIS

10 000.00€

### Project website

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