WAT COMPETENCES?

COMPETENCES AND RELATED INTENDED LEARNING OUTCOMES (ILOs) OF MASTER’S PROGRAMME IN WATER AND ENVIRONMENTAL ENGINEERING AT AALTO UNIVERSITY, FINLAND

https://into.aalto.fi/display/enwat

June 2019
COMPREHENSIVE & CRITICAL THINKING
DESIRE FOR PROBLEM-SOLVING
INTERACTION & TEAM WORK
MULTIDISCIPLINARY & -SECTORAL VIEW
SUSTAINABLE & FUNCTIONING SOCIETY

COMPETENCES

Water & environment
- KEY COMPONENTS & MANAGEMENT SYSTEMS IN WATER & ENVIRONMENTAL ENGINEERING
- WATER SERVICES
- HYDROLOGY & HYDRAULICS
- WATER & ENVIRONMENTAL QUALITY
- SOCIETAL CONTEXT + KEY DRIVERS AND SCALES

Engineering skills
- COMPUTATIONAL METHODS (e.g. modelling, statistics, GIS)
- EXPERIMENTAL METHODS & DATA ANALYSIS
- UNCERTAINTY & MAGNITUDES
- PROJECT SKILLS: PLANNING, IMPLEMENTATION AND MANAGEMENT

SKILLS
KNOWLEDGE
IDENTITY
Our graduate is able to:

1) Recognise the key components and management systems in water and environmental engineering, and understand the relevance of sustainability for the field.

2) Understand the principles of the hydrological cycle and movements of water in natural and built environments.

3) Define and differentiate the main sections of water services and environmental services, with focus on the treatment of water and waste water.

4) Understand the key principles of water and environmental quality.

5) Identify the societal context relevant to the water and environment, and comprehend the different scales and key drivers applicable to water and environmental engineering.
Our graduate is able to:

1) Apply **key computational methods** related to water and environmental engineering

2) Understand relevant **experimental methods and data analysis** processes, including the use of data archives

3) Comprehend **uncertainty and different orders of magnitude** related to the measurements, data analysis and modeling

4) Recognise and analyse the main components of water- and environment-related **planning, implementation and management processes**, and use related basic project skills

*ILOs: skills*

[WAT Master’s Programme:](https://into.aalto.fi/display/enwat)
Our graduate:

1) Is motivated and has a desire for **problem-solving**

2) Thinks in a **comprehensive and critical manner** about his/her work and field

3) Maintains a **multidisciplinary and -sectoral view** related to water and environmental engineering

4) Is able to work as a part of a team and has relevant skills for **interaction and communication**

5) Promotes a **sustainable and functioning society**

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