

Water supply and waste water treatment



ECTS
5 crédits



Hourly volume

Introducing

Objectives

At the end of this module, the student will be able to:

1. Understand and be able to explain:

- Notions of resources, water uses, access to water, pollution of receiving environments
- Who are the water stakeholders
- The role of unit operations (OPU) and advanced technologies in the drinking water production and wastewater treatment sectors

2. Know how to find information on the quality of a water resource and be able to assess whether the water is drinkable based on legislation

3. Propose and size treatment lines for producing drinking water from fresh waters and for purification of domestic wastewater, that are adapted to the quality of the resource, respectful of human health and the receiving environments and economical in energy and resources or able to valorize resources. In particular, the student will be able

3.1 designing an appropriate treatment line for the production of drinking water from fresh water, sizing its major unit operations and computing its energy consumption

3.2 comparing several processes for wastewater and sludge treatment

3.3 sizing an activated sludge treatment plant for the removal of major pollutants and choosing a sludge drying technology

3.4 sizing a sludge methanisation equipment

Necessary prerequisites

Unit operations 3A and 4A (sedimentation, filtration, membranes) (I4PETF32), Reaction engineering 3A ICBE (I3BERR12), Metrology/environment/risks (I4PEQS11), Biochemical reaction engineering (I4PERB11)

Practical info

Location(s)

Toulouse