
# BRES2204 Integrated management of water resources

[22.5h+15h exercises] 3 credits

This course is taught in the 1st semester

| | |
|---|---|
| **Teacher(s):** | Amaury Tilmant |
| Language: | French |
| Level: | Second cycle |

## Aims

The principle objective of this course is to understand and to unravel issues related to integrated water management in the 21st century. The course adopts a multi-disciplinary and multi-objective approach and situates at the interface of technical hydrological analysis (e.g. optimisation), information technology (e.g. geographical information systems) and water management policy (e.g. implementation of sustainable development policy). At the end of the course, the student must be able :
- to understand the concept of integrated water management ;
- to model the hydro-system, considering the random properties of the hydro-system ;
- to evaluate the performance of a hydro-system with criteria formulated by different actors ;
- to develop a methodology for solving complex hydrological problems in view of formulating water management measures which respect different objectives.

## Main themes

- Concepts and issues of integrated water management at the scale of a management unit (a dam, an irrigation perimeter, a catchment) ;
- Conceptual modelling of large scale hydro-systems (catchments, dams, perimeters, groundwater bodies) ;
- Initiation to stochastic modelling of hydro-systems ;
- Multi-criteria analysis applied to water resources management

## Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Precursory Courses General hydrology

## Other credits in programs

| | | |
|---|---|---|
| **BIR23/7A** | Troisième année du programme conduisant au grade de bio-ingénieur : Sciences agronomiques (Ressources en eau et en sol) | (3 credits) |
| **BIR23/7E** | Troisième année du programme conduisant au grade de bio-ingénieur : Sciences et technologie de l'environnement (Ressources en eau et en sol) | (3 credits) |