UCL Université catholique de Louvain

LAUCE2152
2013-2014

Hydraulics structures

3.0 credits	30.0 h	2q

Teacher(s) :	Bousmar Didier ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	- Storage hydraulic structures - Fluvial structures - Urban hydraulic structures
Aims :	- Introduce to the specific issues of hydraulic structures - In interaction with the hydraulic-structure project, learn to collect documentation and to design hydraulic structures *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Content :	The course content is determined in connection with the selected theme of the hydraulic project. This content is thus selected among the following topics : - Specificity of hydraulic structures (3 hours) * forces and efforts in hydraulic structures * dispositions against scouring, uplift pressures, internal pressures ; - Large dams (25 hours) * gravity dams * buttress dams * arch dams * auxiliaries : spillways, temporary diversion ; - River structures (15 hours) * navigation locks : types of locks and selection criteria, lock doors, filling and emptying ; * river dams : general design, dam gate ; - Urban hydraulic structures (10 hours) * distribution networks : conception and design * urban-drainage networks : sewers, storage basins, organisation of wastewater treatment.
Other infos :	- Complementary topic for theme "Hydraulics" ; - Prerequisites: AMCO 2151 "General and statistical hydrology", AMCO 2152 "Hydraulics" and AMCO 2153 "Fluvial hydraulics" ; - Teaching method: the topics are selected every year according to the students' interest and to the selected project theme; a part of the content could be studied in the project as a project-based learning ; - Evaluation : oral examination.
Cycle and year of study :	> Master [120] in Civil Engineering
Faculty or entity in charge:	GC