

Hydraulics : Learning By Project



Component
École Nationale
Supérieure
d'Électrotechnique
d'Électronique

In brief

> **Code ELP:** N6EM05B

Presentation

Objectives

[🔗](#) External link towards the pitch of the course

It's about being able to calculate pressure losses in a hydraulic network by reading a Moody diagram or by developing an ad hoc digital program. The calculation of quantities related to a hydraulic jump is a second objective. Finally, the establishment of links between hydraulics and fluid mechanics is an integral part of this teaching.

This teaching combines several educational formulas:

- Traditional Transmissive Education (ETT): Teachers expose knowledge through lectures and tutorials.
- Project Apprenticeship (APP): the realization of projects motivates a search for useful information, independently.
- Progress in Groups (PEG): An individual course work is followed by group discussions and collaborations.

Description

The hydraulics in charge processes pressurized flows in closed conduits. Free surface hydraulics treat flows in open channels. The essential notions are:

- Hydraulic load
- Linear load losses
- Singular charge losses

Hydraulic machines refer to pumps as well as turbines. The essential notions are:

- The three types of pumps
- Load balance and yields
- Operating parameters

Useful info