

2.0 credits	10.0 h + 15.0 h	1q
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Teacher(s) :	Zech Yves ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Introduction to the general free surface hydrology and initiation to the statistical hydrology applied to the predetermination of floods and the low water lev
Aims :	Introduction to the object and the methods of hydrology, in order to approach elementary calculations and to understand more elaborate developments <i>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".</i>
Content :	<p>Free surface hydrology (7 hours) :</p> <ul style="list-style-type: none"> <li>- Precipitation : precipitation mechanism : condensation, hydro-meteorological context, types of rains ; rainfall data : rain measurement, duration-intensity-frequency curves, extension to a watershed ;</li> <li>- Hydrologic budget : hydrologic cycle, evaporation, infiltration ;</li> <li>- Streamflow : streamflow data and measurement, cumulative discharge curve, flow-duration curve : characteristic elements, parabola of Coutagne, shifted lognormal law of Galton-Gibrat, applications to navigable rivers and hydroelectric production ;</li> <li>- Hydrographs : factors influencing the hydrograph shape, separation between base flow and net hydrograph ;</li> <li>- Rainfall-discharge relation and hydrograph construction : unit hydrograph, rational method, application to urban drainage (Hauff-Vicari method).</li> </ul> <p>Statistical hydrology (3 hours) :</p> <ul style="list-style-type: none"> <li>- Floods: definition and characterisation ;</li> <li>- Extreme values probabilistic and statistical models :</li> <li>- Average and maximum rainfalls : the exponential distributions, maximum annual flow : the lognormal distribution (method of moments and method of maximum likelihood).</li> </ul>
Other infos :	<ul style="list-style-type: none"> <li>- Pedagogy : lectures, elementary exercises, in-situ measurements</li> <li>- Examination : written</li> </ul>
Cycle and year of study :	<a href="#">&gt; Bachelor in Engineering : Architecture</a> <a href="#">&gt; Bachelor in Engineering</a>
Faculty or entity in charge:	GC