

5.00 credits

30.0 h

Q2

Teacher(s)	Willems Bert ;
Language :	English
Place of the course	Louvain-la-Neuve
Prerequisites	Undergraduate courses in energy systems from a technical perspective, microeconomics, systems analysis.
Main themes	<p><b>Some of the topics treated in the course include:</b></p> <ul style="list-style-type: none"> <li>o Central energy management for generation</li> <li>o Generation technologies</li> <li>o Energy transmission and distribution</li> <li>o Energy storage</li> <li>o Energy sources, location and constraints.</li> <li>o Local energy management</li> <li>o Energy economics, cost function for generation, transmission and distribution.</li> <li>o New technologies</li> <li>o Market actors and locations</li> <li>o Technical regulation of generation and transport</li> </ul>
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b>                  The course provides a techno-economic basis for students to understand the energy generation, storage, transmission, distribution and consumption from a system-economic perspective. The scope includes gas and electrical systems and their specificities.</p> <p><b>After the course, the students should be able</b> to understand in the techno-economic interactions of various actors and processes in the energy system.</p> <p><b>In terms of methodology, the students should be able</b> to perform managerial energy economic analyses using tools and approaches that are applied in the sector.</p>
Evaluation methods	Written exam after the end of the course (70%). Group works, and student presentations are part of the final grade (30%). A resit is only organized for the written exam, the grade for the group work and student presentations is final.
Teaching methods	Ex-cathedra lectures, lectures with active student participation (such as group work, computer simulations, and student presentations), and guest lectures if possible.
Content	<p><b>Some of the topics treated in the course include:</b></p> <ul style="list-style-type: none"> <li>o Central energy management for generation</li> <li>o Generation technologies</li> <li>o Energy transmission and distribution</li> <li>o Energy storage</li> <li>o Energy sources, location and constraints.</li> <li>o Local energy management</li> <li>o Energy economics, cost function for generation, transmission and distribution.</li> <li>o New technologies</li> <li>o Market actors and locations</li> <li>o Technical regulation of generation and transport</li> </ul> <p>Note: The content of the course might be adjusted based on the availability of guest speakers.</p>
Other infos	The communication between the professor and the students takes place through the electronic platform Moodle. You should enroll in the course on Moodle to have access to the online documents such as course notes, slides and additional material that will be posted.
Faculty or entity in charge	CLSM

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] : Business Engineering	INGE2M	5		