UCLouvain

lelme2240

2023

Energy systems lab.

5.00 crédits	30.0 h + 30.0 h	Q2

Enseignants	Contino Francesco ;Jeanmart Hervé ;
Langue d'enseignement	Anglais > Facilités pour suivre le cours en français
Lieu du cours	Louvain-la-Neuve
Thèmes abordés	• Experimental characterization of energy conversion technologies • Introduction to the metrology specific to the energy systems • Application of uncertainty analysis to energy systems • Introduction to the safety aspects of lab work
Acquis d'apprentissage	**A la fin de cette unité d'enseignement, l'étudiant est capable de :** **Contribution of the course to the program objectives (N°)** • AA1.1, AA1.2, AA1.3 • AA3.1, AA3.2 • AA5.3, AA5.4, AA.5.5, AA5.6 • AA6.1, AA.6.3 1 **Specific learning outcomes of the course** • Identify the different components of energy conversion technologies • Operate machines in laboratory • Collect and report experimental data • Analyze, interpret and appraise experimental results including their uncertainty analysis • Compare theoretical and actual performances of energy conversion technologies
Modes d'évaluation des acquis des étudiants	Evaluation methods : • Continuous assessment during the labs : 50% of the final grade • Oral examination based on the lab reports (portfolio) / presentation by the students of some of their results to aswner questions asked by the teachers : 50% of the final grade • The marks can be individualized for the different members of a group based on their effective participations to the activities during the semester and the oral examination. Participation to the labs is mandatory. Unmotivated absence to the labs means an absence for the course. The labs are only organised during the semester. The labs cannot be done during the summer. Based on Art. 78 of the RGEE, there is no August/September session for this course. **The marks obtained in June are kept for the next session.**
Méthodes d'enseignement	• Laboratory activities • Formal lectures on the analysis and the reporting of experimental data At minimum, the students must be available at the slots dedicated to the course on the planning (ADE). Labs might be organised also at other slots during the semester based on student availabilities.
Contenu	The course is centered on laboratories related to the field of energy. Several conversion technologies are avaialble and are the subjects of the labs: • IC engines (CHP units) • Gas turbines • Wind turbines • PV panels • Heat pump • Compressor • Solar thermal • Cooling technologies • Batteries • Fuel cell
Faculté ou entité en charge:	ELME

Programmes / formations proposant cette unité d'enseignement (UE)

Intitulé du programme	Sigle	Crédits	Prérequis	Acquis d'apprentissage
Master [120] : ingénieur civil mécanicien	MECA2M	5		
Master [120] : ingénieur civil électromécanicien	ELME2M	5		
Master [120] : ingénieur civil en génie de l'énergie	NRGY2M	5		