

4.0 credits	30.0 h + 15.0 h	2q
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Teacher(s) :	
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	The course is divided into 2 parts. The first part (2.5 ECTS) deals with reminding some general concepts and describing thermodynamic functions and mixing properties of solutions. Equilibrium between fluid phases is also studied in this part. The second part deals with the analysis of systems involving a solid phase.
Aims :	This module aims at describing the thermodynamic properties of several equilibrium between phases, starting from ideal cases to real ones. Thermodynamic laws are applied to equilibrium between fluid phases (gas and liquid) (Part 1) as well as to processes involving condensed phases (liquid and solid) (Part 2). At the end of the module, the students will be able to describe the thermodynamic properties and chemical equilibrium in systems involving several phases. <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 :	Content : Part 1 : - The equations of state of ideal and real gases, kinetic theory of gases. - Thermodynamic functions (enthalpy, entropy, Gibbs free energy). - Thermodynamic Properties of solutions, chemical potential, equation of Gibbs-Duhem, laws of Raoult and Henry, excess quantities. - Thermodynamic properties of non-ideal liquids. - Equilibrium between fluid phases (liquid - gas, liquid - liquid). Part 2 : - Equilibrium between condensed phases (liquid - solid, solid - solid). Methods : Ex-cathedra courses and exercises.
Other infos :	None.
Cycle and year of study :	> Bachelor in Engineering
Faculty or entity in charge:	FYKI