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| 3.0 credits | 22.5 h + 7.5 h | 2q |
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| Teacher(s) : | Mignon Denis ; Delannay Francis ; |
| Language : | Français |
| Place of the course | Louvain-la-Neuve |
| Main themes : | The course first deals with reminding some general concepts (like entropy) and describing thermodynamic functions of systems constituted by 1 constituent. The thermodynamic description and mixing properties of solutions is then considered together with the thermodynamic function associated with interfaces. |
| Aims : | This course aims at describing the thermodynamic properties of several equilibria between phases, starting from ideal cases to real ones. Concepts and formalism of the thermodynamic will be first described and then thermodynamic laws are applied to equilibria between fluid phases (gas and liquid) as well as to processes involving condensed phases (liquid and solid). At the end of the course, students will be able to describe the thermodynamic properties and chemical equilibria 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> |
| Teaching methods : | Ex-cathedra courses, exercises. |
| Content : | Content : - The equations of state of ideal and real gases, kinetic theory of gases. - Thermodynamic functions (enthalpy, entropy, Gibbs free energy). - Equilibria in systems involving 1 constituent. - Thermodynamic properties of interfaces. - Thermodynamic properties of solutions, chemical potential, equation of Gibbs-Duhem, laws of Raoult and Henry, excess quantities. - Thermodynamic properties of heterogeneous binary systems. - Equilibrium between fluid phases (liquid - gas, liquid - liquid). |
| Other infos : | A copy of course slides is made available to the students. The total contents of matter that is subject to examination is not limited to the course support, but includes everything that has been said or shown during the cours, either orally, on screen or by other media. |
| Cycle and year of study : | > Bachelor in Engineering |
| Faculty or entity in charge: | FYKI |