

5.0 credits

30.0 h + 22.5 h

2q

Teacher(s) :	De Wilde Juray ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	A detailed analysis of the basic processes of the chemical industry (production of sulfuric acid, phosphoric acid, sodium carbonate, hydrogen, ammonia).
Aims :	To illustrate via well-chosen processes in the important inorganic sector the major constituents in the fabrication process, integrating knowledge from different other courses (kinetics, reactors, thermodynamics, transfer). <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 :	<ul style="list-style-type: none"> - Industrial synthesis of sulfuric acid: production of SO₂, conversion of SO₂ to SO₃, absorption of SO₃, fabrication and environmental aspects, flow-sheets. - Study of the catalytic conversion of SO₂ to SO₃: thermodynamics, kinetics, convertor calculations. - Industrial synthesis of phosphoric acid: dry route, wet route, construction materials, phosphates. - Industrial fabrication of sodium carbonate: process via ammonia, process via caustic brine, bicarbonatation column, environmental aspects, handling, transport and storage. - Production of hydrogen and ammonia: steam reforming, partial oxidation, shift-reaction, ammonia synthesis (catalyst, convertor, construction material).
Other infos :	Evaluation based on an oral exam.
Cycle and year of study :	> Master [120] in Biomedical Engineering > Master [120] in Chemical and Materials Engineering
Faculty or entity in charge:	FYKI