UCLouvain

lchm1231

2026

Elements of inorganic and analytical chemistry

5.00 credits	30.0 h + 50.0 h	Q2

Teacher(s)	Hermans Sophie ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	It is recommended to have acquired the knowledge and skills developed in the teaching unit: LCHM1111 Chimie générale
Main themes	The theoretical presentation covers the general properties of the elements and main compounds of the s and p blocks of the periodic table. It also includes an introduction to the transition elements (d block) and to metallurgy, as well as to the lanthanides and actinides. The first chapter deals in a general way with the periodicity of chemical and physico-chemical properties. The second chapter is devoted to an introduction to radioactivity. The third chapter deals with hydrogen and its binary compounds. The following chapters are devoted to the different families of the periodic table. In each of these, the characteristic properties of the group, the obtaining, the properties and the most important uses of the elements and their principal compounds are described in succession. Attention is drawn to the economic and geostrategic aspects of the supply of raw materials, as well as to the dangers that the various simple bodies and compounds can present for the individual and the environment. During the practical exercises, the students approach the qualitative analysis of the most common cations and anions in aqueous solution. The set of analyses covers about fifty ionic species. The analytical approach is based on the exploitation of the chemical properties of the elements according to their position in the periodic table. The student must have a perfect command of the simultaneous use of acid-base, precipitation, complexation and oxidation-reduction properties.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 During the practical exercises, the students approach the qualitative analysis of the most common cations and anions in aqueous solution. The set of analyses covers about fifty ionic species. The analytical approach is based on the exploitation of the chemical properties of the elements according to their position in the periodic table. The student must have a perfect command of the simultaneous use of acid-base, precipitation, complexation and oxidation-reduction properties.
Evaluation methods	Written exam supplemented by an oral exam
Teaching methods	Lectures supplemented by practical work on inorganic qualitative analysis in the laboratory.
Content	The course covers basic inorganic chemistry and the exploration of the properties of elements based on the Periodic Table.
Inline resources	The slides used during the course are available on Moodle
Bibliography	Liste exhaustive d'ouvrages de référence fournie lors du cours théorique
Other infos	Participation in the **practical work** is **MANDATORY**. Any absence must be justified by a medical certificate.
Faculty or entity in charge	CHIM

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Chemistry	CHIM1BA	5		🔍