

5.0 credits

45.0 h + 7.5 h

1q

Teacher(s) :	Debier Cathy ; Bernard Alfred ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Introduction : historical overview, basic concepts in toxicology, evaluation methods (4 hours) Part 1 : Metabolism of xenobiotics: intake/uptake (inhalation, ingestion and skin penetration), distribution, biotransformation and excretion (12 hours) Part 2 : Toxicity of the major pollutants or contaminants hazardous to man: lead, cadmium, mercury, pesticides, PCBs, dioxins, air pollutants, carcinogens,.. (12 hours) Part 3 : Risk assessment (2 hours)
Aims :	At the end of the course, the student should have a satisfactory knowledge of : - the basic principles and concepts in toxicology (concepts of dose, exposure, hazard, risk, indicators, biomarkers,..), - the main experimental and epidemiological methods used to evaluate the toxicity of chemicals, - the main pathways of xenobiotics absorption, biotransformation and elimination, - the toxicity of the major pollutants or contaminants to which man can be exposed in the environment, the industry or because of his lifestyle (heavy metals, air pollutants, pesticides, dioxins, hydrocarbons, .), - the methodology of risk assessment. <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 After an introduction to the history of poisons and the basic concepts and principles in toxicology, the course describes the pathways and mechanisms involved in the absorption, biotransformation, distribution and excretion of xenobiotics. Then, the course addresses the main hazardous chemicals to which man can be exposed in the general or work environment such as heavy metals (lead, cadmium, mercury), toxic gases, pesticides, dioxins, hydrocarbons or asbestos. The methodology of risk assessment is also described. Prerequisites includes a basic knowledge of chemistry and physiology.. Methods: Lectures with an audiovisual support (slides, powerpoint presentation and films).
Other infos :	Precursory courses Basic knowledge of chemistry and physiology. Evaluation Oral or written (according to the student's choice).
Cycle and year of study :	> Master [120] in Biochemistry and Molecular and Cell Biology > Master [120] in Agricultural Bioengineering > Master [120] in Chemistry and Bio-industries > Master [120] in Environmental Bioengineering > Master [60] in Environmental Science and Management > Master [120] in Environmental Science and Management
Faculty or entity in charge:	AGRO