

3.0 credits	22.5 h + 15.0 h	1q
-------------	-----------------	----

Teacher(s) :	Key Prato Maria (compensates Govaerts Bernadette) ; Govaerts Bernadette ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	<p>Statistic and measure uncertainty: error types, quantification of error uncertainty, bias analysis, estimation of variance components, control charts, simple linear calibration.</p> <p>Experimental design in product and process development : methodology, factorial designs, screening designs, design for response surface analysis, mixture designs, multiresponse optimisation.</p> <p>Multivariate methods in chemistry : principal components analysis, clustering, discriminant analysis and partial least squares with application to multivariate calibration.</p> <p>The exercises will apply the methodology presented in the course on case studies and with a dedicated statistical software.</p>
Aims :	<p>This course gives an introduction to statistical tools for chemistry and analytical chemistry : experimental design, statistical tools for the laboratory and multivariate chemometrics methods.</p> <p>At the end of the course, the student should recognise the situations where statistical methods are useful in chemistry and will be trained to apply them efficiently.</p> <p><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></p>
Other infos :	<p>Pré-requis Cours BIR 1203 et Chimie Analytique</p> <p>Divers Ouvrages de référence proposés :</p> <p>D.L. Massart, B.G.M. Vandeginste, L.M.C. Buydens, S. De Jong, P.J. Lewi, J. Smeyers-Verbeke. Handbook of chemometrics and qualimetrics. Elsevier; Part A, 1997; Part B, 1998.</p> <p>G.E.P. Box, N.R. Draper. Empirical model-building and response surfaces. Wiley, 1987.</p> <p>Brereton R.G., Chemometrics: Data Analysis for the Laboratory and Chemical Plant, Wiley.</p>
Cycle and year of study :	<p>> Master [120] in Chemistry and Bio-industries</p> <p>> Master [120] in Biomedical Engineering</p> <p>> Master [120] in Chemical and Materials Engineering</p> <p>> Master [120] in Statistics: Biostatistics</p> <p>> Certificat universitaire en statistique</p> <p>> Master [120] in Chemistry</p>
Faculty or entity in charge:	AGRO