

4.0 credits	30.0 h + 15.0 h	1q
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Teacher(s) :	Bogaert Patrick ;
Language :	Français
Place of the course	Louvain-la-Neuve
Prerequisites :	Precursory courses : LBIR 1202 'Informatique appliquée' Supplemental courses : BIR 1201 'Exercices intégrés en mathématiques et informatique', BIR 13XX 'Probabilités et statistiques II'
Main themes :	Introduction to the calculus of probability - Discrete and continuous random variables: probability and probability density functions, expectations, variance and other statistical properties - Principal statistical distributions - Couples of random variables and random vectors: joint, marginal and conditional distributions, independence, covariance and correlation, expectations and conditional variance - Introduction to statistics - Notions concerning estimators and estimator properties - Inference about the mean and variance: estimators, sample distributions - Notions of one-mean-confidence intervals.
Aims :	Initiation to the study of random phenomena and to the principles and methodology of the statistic analysis of experimental data. <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 :	Framing : teaching team + assistant
Content :	Introduction to the calculus of probability - Discrete and continuous random variables: probability and probability density functions, expectations, variance and other statistical properties - Principal statistical distributions - Couples of random variables and random vectors: joint, marginal and conditional distributions, independence, covariance and correlation, expectations and conditional variance - Introduction to statistics - Notions concerning estimators and estimator properties - Inference about the mean and variance: estimators, sample distributions - Notions of one-mean-confidence intervals. The practical exercises deal with examples and applications allowing to apply the theory. Part of these exercises will deal with data processing issues in the computer room and will allow to illustrate the different statistical concepts. Use will be made of the macro-language introduced in the course BIR1202 'Informatique appliquée'. There will also be a link with the course BIR1201 'Exercices intégrés en mathématiques et informatique'.
Other infos :	P. Bogaert (2005). Probabilités pour scientifiques et ingénieurs. Editions De Boeck.
Cycle and year of study :	> Bachelor in Bioengineering > Bachelor in Computer Science > Preparatory year for Master in Computer science > Master [120] in Environmental Science and Management > Bachelor in Information and Communication > Bachelor in Philosophy > Bachelor in Pharmacy > Bachelor in Engineering : Architecture > Bachelor in Psychology and Education: General > Bachelor in Economics and Management > Bachelor in Motor skills : General > Bachelor in Human and Social Sciences > Bachelor in Sociology and Anthropology > Bachelor in Political Sciences: General > Bachelor in Mathematics > Bachelor in Biomedicine > Bachelor in Engineering > Bachelor in Religious Studies > Preparatory year for Master in Statistics: Biostatistics
Faculty or entity in charge:	AGRO