

6 credits

30.0 h + 30.0 h

Q1

Teacher(s)	de Lannoy Gaël ;Desmet Lieven ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	PART I : Mathematics : Analysis of functions, limits, continuity, derivatives, integrals, matrix algebra. Part II : Probability : Event, probability and conditional probability, Bayes theorem, discrete and continuous random variables, particular laws, density function, distribution function, moments, random vector, limit theorems. PART III : Statistics : Point estimation, confidence interval and hypothesis testing with application to the case of normal population(s) or proportions.
Aims	<p>1 By the end of the course, the student will be familiar with the basis of mathematics, probability and statistics, necessary to start the courses of methodology and practice of statistics of the program.</p> <p>-----</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>
Content	Content PART I : Mathematics : Analysis of functions, limits, continuity, derivatives, integrals, matrix algebra. Part II : Probability : Event, probability and conditional probability, Bayes theorem, discrete and continuous random variables, particular laws, density function, distribution function, moments, random vector, limit theorems. PART III : Statistics : Point estimation, confidence interval and hypothesis testing with application to the case of normal population(s) or proportions. Teaching methods The course consists of lectures and exercise sessions.
Bibliography	<ul style="list-style-type: none"> • Dowling, E.T. (1995). <i>Mathématique pour l'économiste</i>. McGraw-Hill, London. • Droesbeke, J.-J. (1997). <i>Eléments de Statistique</i>. Editions de l'Université de Bruxelles & Editions Ellipses. • Khuri, A (1993). <i>Advanced calculus with applications in statistics</i>, Wiley, New York. • Wackerly, D.D., Mendenhall, W. et Scheaffer, R.L. (1996). <i>Mathematical Statistics with Applications</i>, 5th Ed , ITP, Duxbury Press.
Other infos	<p>Evaluation The evaluation consists of a written exam. Teaching materials The course notes will be distributed during the first lecture of the course. Others Professors : - Johan Segers, phone : 010/47 43 11, e-mail : lambert@stat.ucl.ac.be - Ingrid Van Keilegom, phone : 010/47 43 30, e-mail : vankeilegom@stat.ucl.ac.be</p> <p>References : Dowling, E.T. (1995), <i>Mathématique pour l'économiste</i>, McGraw-Hill, London. Droesbeke, J.-J. (1997). <i>Eléments de Statistique</i>. Editions de l'Université de Bruxelles & Editions Ellipses. Khuri, A (1993), <i>Advanced calculus with applications in statistics</i>, Wiley, New York. Wackerly D.D., Mendenhall W. and R.L. Scheaffer 5th Ed (1996) <i>Mathematical Statistics with Applications</i>, ITP, Duxbury Pres</p>
Faculty or entity in charge	LSBA

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in data Science: Statistic	DATS2M	6		