

8 credits

30.0 h + 45.0 h

Q1

Teacher(s)	de Lannoy Gaël ;Desmet Lieven ;Van Keilegom Ingrid ;
Language :	French
Place of the course	Louvain-la-Neuve
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	<p>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.</p>
Bibliography	<ul style="list-style-type: none"> <li>• Dowling, E.T. (1995). <i>Mathématique pour l'économiste</i>. McGraw-Hill, London.</li> <li>• Dreesbeke, J.-J. (1997). <i>Eléments de Statistique</i>. Editions de l'Université de Bruxelles &amp; Editions Ellipses.</li> <li>• Khuri, A (1993). <i>Advanced calculus with applications in statistics</i>, Wiley, New York.</li> <li>• Wackerly, D.D., Mendenhall, W. et Scheaffer, R.L. (1996). <i>Mathematical Statistics with Applications</i>, 5th Ed , ITP, Duxbury Press.</li> </ul>
Faculty or entity in charge	LSBA