UCL Université catholique de Louvain

LFSAB1106

2013-2014

Applied mathematics : Signals and systems

5.0 credits	30.0 h + 30.0 h	2q

Teacher(s) :	Vandendorpe Luc ; Wertz Vincent ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Theory and applications of the theory of signals and systems in continuous-time and in discrete-time.
Aims :	To introduce the students to the theory and to the methods of analysis of linear signals and systems as well as to their use in engineering science. *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".*
Content :	1. Signals - Systems - Convolutions - Distributions 2. Signals and systems in continuous-time - Fourier transform (uni- and multi-dimensional) - Fourier series - Application to spectral analysis - Laplace transform - Application to differential equations - Application to linear systems in continuous-time (transfer functions, causality, stability, ...) 3. Signals and systems in discrete-time : - Sampling - Z transform - Application to difference equations - Application to linear systems (transfer functions, causality, stability, ...) - Discrete Fourier transform - Fast Fourier transform - Application to spectral analysis
Other infos :	no special information
Cycle and year of study :	> Bachelor in Engineering
Faculty or entity in charge:	BTCI