LFSAB1101

2010-2011

Mathematics 1

6.0 credits	30.0 h + 30.0 h	1q

Teacher(s) :	Verleysen Michel ; Wertz Vincent ; Ben-Naoum Abdou Kouider ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	" real valued functions of a single variable; first order differential equations; linear algebra; " proofs of some fundamental theorems in calculus and algebra; " construction of proofs for simple properties; " modelling using first order differential equations.
Aims :	Following this course, the students will be able to : Content-oriented objectives : " manipulate real functions of a single variable; " master the basic notions of linear algebra; " model simple phenomena using first order differential equations, and solve these equations; Method-oriented objectives: " analyze a mathematical statement, with the required rigor; " formulate and write short proofs with the required rigor; " read critically a mathematical statement; " illustrate statements with examples and counterexamples; " understand the various ways of mathematical proving techniques. *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 :	Contents and Methods " Sets - relations - functions " limits - continuity - derivative - integral " parametric curves - first order differential equations " complex numbers - complex exponential - sequences and series " linear algebra : systems of linear equations - matrix algebra - vector spaces - linear maps The teaching methodology should promote the student's active involvment in his/her own acquisition of the course material. The specific implementation of this methodology is left to the lec turer's best judgement, in accordance with the pedagogical guidelines set out by the Faculty.
Other infos :	The evaluation has 2 components: an intermediary evaluation during the quadrimester and a final exam at the end of the quadrimester (written exam). The final mark is a combination of the scores in these two evaluations - Workfiles for each of the parts (available on the website and in printed version); Reference book: University Physics (Freedman and Young)
Cycle and year of study :	> Bachelor in Engineering : Architecture > Bachelor in Engineering > Preparatory year for Master in Actuarial Science
Faculty or entity in charge:	BTCI