Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
MAT115	Foundations of mathematics	1	4	0	0	4	6

Prerequisites	
Admission Requirements	
Language of Instruction	French
Course Type	Compulsory
Course Level	Bachelor Degree
Objective	To introduce the subjects and technics of pure mathematics
Content	Logic, Proof methods, Notion of set, Family of sets, Product of sets, Relations, Functions, One to one, surjective functions, composition of functions, equivalence relation, equivalence classes, quotient sets, Order relations
References	Deschamps et Warusfel , Mathématiques 1ère année, Cours et exercices. Gary Chartrand, Albert D. Polimeni, Ping Zhang, Mathematical Proofs: A Transition to Advanced Mathematics

Theory Topics

Week	Weekly Contents
1	Introduction to logic
2	Introduction to logic
3	Set theory
4	Set theory
5	Relations
6	Relations
7	Mid-term examination
8	Functions
9	Functions
10	Cardinalities of sets
11	Cardinalities of sets
12	Mid-term examination
13	Proof in group theory
14	Proof in group theory