

## Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
MAT115	Fundamentals of Mathematics	1	3	2	0	5	8

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	Set theory
2	Introduction to logic
3	Introduction to logic
4	Proof methods
5	Proof methods
6	Proof methods
7	Relations
8	Mid-term examination
9	Order relations
10	Modular arithmetic
11	Functions
12	Functions
13	Cardinalities of sets
14	Cardinalities of sets