

**Content**

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
MAT101	Single Variable Analysis I	1	5	0	0	5	7

Prerequisites	
Admission Requirements	

Language of Instruction	French
Course Type	Compulsory
Course Level	Bachelor Degree
Objective	To build, with appropriate rigour, the foundations of calculus and along the way to develop the skills to enable us to continue studying mathematics
Content	Course syllabus : Real Numbers, Sequences, Topology of $\mathbb{R}$ , Continuity, Limits
References	Course book : First Course in Real Analysis, Sterling K.Berberian, Springer

## Theory Topics

Week	Weekly Contents
1	Properties of real numbers
2	Properties of real numbers
3	Infimum- Supremum
4	Infimum- Supremum
5	Midterm Exam
6	Sequences : Definitions and examples
7	Sequences : Limits
8	Sequences : Convergence theorem
9	Sequences : Convergence theorem
10	Midterm Exam- Notions of function
11	Limits and continuous functions : Limits
12	Limits and continuous functions : Continuity in one point
13	Limits and continuous functions : Continuity on an interval
14	Limits and continuous functions : Elementary functions