

## Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
MAT261	Linear Algebra I	3	5	0	0	5	7
Prerequisites							
Admission Requirements							
Language of Instruction		French					
Course Type		Compulsory					
Course Level		Bachelor Degree					
Objective		Teaching the fundamentals of linear algebra					
Content		Real numbers, Complex numbers, Vector spaces, Finite dimensional vector spaces, Basis, Dimension, Direct sum, Linear transformations, Matrices, Change of basis, Row and column spaces					
References		Axler, Sheldon J, Linear Algebra Done Right.					

## Theory Topics

Week	Weekly Contents
1	Fields
2	Vector spaces-Subspaces
3	Basis-Dimension
4	Direct sum
5	Linear transformations-Image-Kernel
6	Matrix of Linear transformations-Matrices
7	Exam-Change of Basis
8	Inversibles matrices-Elementary matrices
9	System of Linear Equations
10	Subspaces of row and column- Rank-Theorems about ranks
11	Determinant
12	Cofactor and Cramer methods
13	Gauss method
14	Calcul of determinant