

Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
MAT162	Differential and Integral Calculus	2	3	2	0	5	8
Prerequisites							
Admission Requirements							
Language of Instruction	French						
Course Type	Compulsory						
Course Level	Bachelor Degree						
Objective	Teaching the fundaments 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