Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
MAT162	Linear Algebra I	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, Determinant, Eigenvalues-Eigenvectors and Diagonalization
References	Axler, Sheldon J, Linear Algebra Done Right, 4th edition 2025.

Theory Topics

Week	Weekly Contents
1	System of Linear Equations
2	Matrix and System of Linear Equations
3	Vector spaces-Subspaces
4	Intersection-Sum-Direct sum
5	Basis-Dimension
6	Basis-Dimension
7	Linear transformations
8	Exam-Change of Basis-Image-Kernel
9	Matrix of Linear transformations-Matrices
10	Change of basis Matrix
11	Rotation, symmetry, projection
12	Exam-Eigenvalues-Eigenvectors
13	Eigenvalues-Eigenvectors-Diagonalization
14	Determinant