	Course name: MATH104 Applied Linear Algebra		**Department:** Electrical and Electronics Engineering				Semester 2
	Methods of Education						Credit (ECTS)
	Lecture	Study Time	Quiz	Project	Exam (incl. Prep.)	Total	6
	42	80	0	0	58	180	

Language	English
Compulsory/Elective	Compulsory
Prerequisites	None
Course Contents	Matrices, Vectors, Linear Equation Systems, Gauss-Jordan Elimination Method, Digit / Sequence Forms, Rank Concept, Determinant, Vector Spaces, Linear Dependence and Independence, Basic and Vertical Projection, Linear Transformations, Eigenvalues and Eigenvectors.
Course Objective	To gain the ability to apply Linear Algebra Concepts in Engineering Problems.
Learning Outcomes and Competences	– Solve linear systems of equations more efficiently. – Convert matrices into desired form by applying elementary operations. – Compute and interpret on basis, dimension and linear independence of vectors. – Determine four subspaces of a matrix. – Determine eigenvalues and eigenvectors of a matrix.
Textbook and /or References	**Main Textbooks:** 1. Applied Linear Algebra, 2nd, Peter J. Olver, Chehrzad Shakiban 2. Elementary Linear Algebra, Larson and Falvo, Cengage Learning, 2009.

Assessment Criteria	If any, mark as (X)	Percentage (%)
Midterm Exams	X	%40
Quizzes		
Homework		
Projects		
Laboratory work		
Other		
Final Exam	X	%60

Instructors	

Weekly Schedule

Week	Subject
1	Matrices
2	Matrices-Vectors
3	Vectors
4	Linear Equation Systems
5	Gauss-Jordan Elimination Method
6	Partial Pivoting
7	Step / Sequence Forms
8	Rank of The Matrix
9	**Mid-Term Exam**
10	Determinant
11	Vector Spaces
12	Linear Dependence / Independence
13	Basic and Orthogonal Projection
14	Linear Transformations
15	Eigenvalues- Eigenvectors