**Content**

| Course Code | Course Name | Semester | Theory | Practice | Lab | Credit | ECTS |
|---|---|---|---|---|---|---|---|
| ING207 | Linear Algebra | 3 | 2 | 2 | 0 | 3 | 5 |

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| Prerequisites | |
| Admission Requirements | |

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| Language of Instruction | |
| Course Type | |
| Course Level | Bachelor Degree |
| Objective | |
| Content | |
| References | |

**Theory Topics**

| Week | Weekly Contents |
|---|---|
| 1 | The grup of permutations. |
| 2 | Decomposition into disjoint cycles, decomposition into transposition and signature of a permutation. |
| 3 | Determinant : definition and basic propoerties |
| 4 | Some methods to compute determinant |
| 5 | Some examples of classic determinants. |
| 6 | eigenvalues of a determinant and some geometric examples. |
| 7 | Characteristic polynomial, eigenvalues and eigenvectors |
| 8 | Diagonalizable matrixs |
| 9 | Midterm exam |
| 10 | The Cayley–Hamilton theorem |
| 11 | Different methods for computing the powers of a matrix. |
| 12 | Linear recurrence sequences of order 2 or 3. |
| 13 | Systems of homogeneous linear differential equations with constant coefficients. |
| 14 | Systems of nonhomogeneous linear differential equations with constant coefficients. |