

Academic Year: (2019 / 2020)

Review date: 16-10-2019

Department assigned to the subject: Mathematics Department

Coordinating teacher: TERAN VERGARA, FERNANDO DE

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 1

OBJECTIVES

While there are many applied mathematics techniques and concepts that are useful (and used) in Data Science, this course focus on the basics of those based on linear algebra and calculus, as they underlie many of the most important applications and algorithms: Matrix algebra, Matrix decompositions.

DESCRIPTION OF CONTENTS: PROGRAMME

1. Linear Systems
2. Vectors
3. Matrices
4. Diagonalization
5. Orthogonality
6. Symmetric Matrices

LEARNING ACTIVITIES AND METHODOLOGY

Theoretical classes (lectures)

Practical problems that students must solve individually as homework

Tutorials

ASSESSMENT SYSTEM

Final Exam (in both, ordinary and extraordinary examinations)

% end-of-term-examination:	100
% of continuous assessment (assignments, laboratory, practicals...):	0

BASIC BIBLIOGRAPHY

- David C. Lay, Steven R. Lay, Judi J. McDonald Linear Algebra and Its Applications, Pearson; 5 edition, 2016

ADDITIONAL BIBLIOGRAPHY

- Gilbert Strang LINEAR ALGEBRA and learning from Data, Wellesley Cambridge Press, 2019
- W. Keith Nicholson Linear Algebra with Applications, McGraw-Hill, 6th edition, 2009