



1º CICLO | LICENCIATURA

Computação e Matemática Aplicada

Direction

Tiago Candeias

Number of Semesters

6

ECTS

180

Access Conditions

About

With the exponential advance in the volume of ‘big data’ and its digital transformation over the last decade and a half, we have witnessed and continue to observe a phase of constant reinvention not only of the infrastructures and models of information systems, but also the reinvention of new professional profiles in the transformation of data into knowledge. It can be seen that professionals trained in areas related to traditional ‘mathematics’ have shown a very strong basis for facing this challenge. However, there is a great effort on the part of these professionals to adapt to IT infrastructures. The aim is to maintain the analytical thinking of these professionals but also to develop skills in computer engineering.

Course Plan

Course Structure

1º Ano / No Branch

[Data Science Foundations](#) 6 ECTS | [Discrete Mathematics](#) 6 ECTS | [Mathematics I](#) 6 ECTS | [Numerical Analysis](#) 6 ECTS | [Programming Fundamentals](#) 6 ECTS | [Exploratory Data Analysis](#) 6 ECTS | [Introduction to Mathematical Probability](#) 6 ECTS | [Linear Algebra](#) 6 ECTS | [Mathematics II](#) 6 ECTS | [Programming Languages](#) 6 ECTS |

2º Ano / No Branch

[Algorithms and Data Structures](#) 6 ECTS | [Databases](#) 6 ECTS | [Fundaments of Data Engineering for Data Science](#) 6 ECTS | [Introduction to Computer Science](#) 6 ECTS | [Introduction to Ordinary Differential Equations](#) 6 ECTS | [Introduction to Stochastic Processes](#) 6 ECTS | [Introduction to the Theory of Graphs and Networks](#) 6 ECTS | [Machine Learning I](#) 6 ECTS | [Statistical Methods](#) 6 ECTS | [Visualization for Data Science](#) 6 ECTS |

3º Ano / No Branch

[Final Course Work](#) 20 ECTS | [Machine Learning II](#) 5 ECTS | [Operational Research](#) 5 ECTS |
[Option I](#) 5 ECTS | [Option II](#) 5 ECTS | [Cloud Information Systems](#) 5 ECTS | [Computer
Networks](#) 5 ECTS | [Option III](#) 5 ECTS | [Option IV](#) 5 ECTS |