1º CICLO | LICENCIATURA

Computação e Matemática Aplicada

Direction
Tiago Candeias

Number of Semesters
6

ECTS
180

Access Conditions

16 Mathematics 04 Economics

or

16 Mathematics 07 Physics and Chemistry

or

16 Mathematics 18 Portuguese

or

02 Biology and Geology 16 Mathematics

or

13 English 16 Mathematics

or

09 Geography 16 Mathematics

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 Structure1º Ano / Common Core 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 / Common Core 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 Differencial 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 / Common Core Final Course Work 20 ECTS | Machine Learning II 5 ECTS | Operational Research 5 ECTS | Cloud Information Systems 5 ECTS | Computer Networks 5 ECTS |