**Bachelor • Lisboa**

# COMPUTATION AND APPLIED MATHEMATICS

## Direction

Prof. Doutor Luís Miguel Campos
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## Secretariat

Lurdes Oliveira
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## Duration

3 Years

## Credits

180 ects

## Exams

Have one of the following sets:

- 04 Economia and 16 Matemática
- 07 Física e Química and 16 Matemática
- 16 Matemática and 18 Português
- 02 Biologia e Geologia and 16 Matemática
- 09 Geografia and 16 Matemática
- 13 Inglês and 16 Matemática

## Presentation

1. 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 profiles of professionals in the transformation of data into knowledge. 2. It can be seen that professionals trained in areas related to traditional ` Maths¿ have shown a very strong basis for facing this challenge. However, these professionals have made a great effort to adapt to IT infrastructures. 3. The aim is to maintain the analytical thinking of these professionals but also to develop skills in computer engineering.

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da informação

# STUDY PLAN

## 1st Year / Common Core

| 1º Semestre | ects | 2º Semestre | ects |
|---|---|---|---|
| Data Science Foundations | 6 | Exploratory Data Analysis | 6 |
| Discrete Mathematics | 6 | Linear Algebra | 6 |
| Introduction to Mathematical Probability | 6 | Mathematics II | 6 |
| Mathematics I | 6 | Numerical Analysis | 6 |
| | | Programming Fundamentals | 6 |
| | | Programming Languages | 6 |

## 2nd Year / Common Core

| 1º Semestre | ects | 2º Semestre | ects |
|---|---|---|---|
| Algorithms and Data Structures | 6 | Introduction to Stochastic Processes | 6 |
| Databases | 6 | Introduction to the Theory of Graphs and Networks | 6 |
| Fundments of Data Engineering for Data Science | 6 | Machine Learning I | 6 |
| Introduction to Computer Science | 6 | Statistical Methods | 6 |
| Introduction to Ordinary Differencial Equations | 6 | Visualization for Data Science | 6 |

## 3rd Year / Common Core

| Anual | ects | 1º Semestre | ects | 2º Semestre | ects |
|---|---|---|---|---|---|
| Final Course Work | 20 | Machine Learning II | 5 | Cloud Information Systems | 5 |
| | | Operational Research | 5 | Computer Networks | 5 |
| | | Option I | 5 | Option III | 5 |
| | | Option II | 5 | Option IV | 5 |

*Documento gerado em 17-05-2025*