



Lisbon School  
of Economics  
& Management  
Universidade de Lisboa



Academic Year 2022/2023

# PROGRAMMING TECHNIQUES

# Presentation

- Objectives
- Program
- Bibliography
- Evaluation rules
- Professor

# Learning Goals

1. Introduce the basic concepts of procedural Programming
2. Introduce the basic concepts of Object-Oriented Programming;
3. Familiarize students with the use of scientific calculus libraries to solve mathematical problems.

# Course Syllabus

## **Introduction      Software, Hardware, Type of software (OS, Databases, Applications), Compiling and Interpreting**

Programming Languages, Python, Tools (IDE, Git)

Language Programming Basics

First Program, Types, Expression and variables, Sting Operations

Lists

Data Structures

Tuples, Sets and Dictionaries

Programming Fundamentals: Control Structures

Conditions and Branching, Loops

Functions

## **Programming Fundamentals: Objects and Classes Object Oriented Paradigm**

Object and Classes Programming

## **Main libraries and Applications**

Overview of main libraries

Small Presentation of the projects

## **Case Study 1**

## **Case Study 2**

# Assessment

- 40% Project
- 20% Laboratory and Quiz (once a week)
- 40% test
- During tests:
  - Students should also not retain or refer to any books or papers during any test except with the express permission of the instructor or teaching staff.
  - Personal belongings should be put away and all mobile phones and other electronic devices should be turned off.
  - or
  - Exam 1 (If student choose this option and has possibility of passing, will loose the previous marks from test1 and test2)
  - Exam 2

# Bibliography

Martins J. P. (2015) Programação em PYTHON: Introdução à Programação Utilizando Múltiplos Paradigmas, IST Press.

Downey, A. (2015) Think Python. (2nd Edition) O'Reilly Media, Inc.

Guttag, J. (2016) Introduction to computation and programming using Python: With application to understanding data. MIT Press, 2016.

# Fraud in the evaluation process

1. In line with n. 2 of RGAC (Evaluation Regulations) 2007-08:
2. All confirmed frauds in the evaluation process, such as copied written tests or other works, imply failure in the course and must be reported by the Director to the Admin Services.
3. The transgressor will not be allowed to the next three opportunities.
4. Any appeal will be decided by the President of Pedagogical Council along with the students' elected Vice-President.

# Instructor



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**Tuesday - 17:00 - 19:00**