Pedro Corte Garcia

Pedro is Adjunct Professor at Nova SBE, with over 10 years international experience in information technologies, working as a developer, analyst, and system architect. He worked for multinational companies, serving clients from a range of business verticals, like Telecommunications, Public Administration, Air Transportation, Mobile Solutions, Utilities and Smart Mobility.

Pedro has a passion for technology and innovation. In 2017, he co-founded a startup named mov.e, using blockchain and DLT technology to create a better solution for the electric vehicle charging. With mov.e he won several start-up competitions like Porsche Connector event (Madrid) and Global Impact Challenge (Lisbon) both in 2018. In addition, with mov.e, he has completed the Singularity University Incubation program at NASA Ames, for product design, business implementation and price strategies. He holds an IT and Management degree from ISCTE and the MBA degree from TheLisbonMBA. Pedro has been an invited speaker on various conferences and events, where he spoke about the blockchain technology, smart cities and entrepreneurship.

João Fonseca

João Fonseca is a researcher and a soon-to-be graduate of the double degree masters program in Management at Nova School of Business and Economics and Information Management Masters at Nova Information Management School. João has started his Management PhD program in September 2018.

João Fonseca's research focuses on sustainable tourism management through the use of telecom and accommodation data and has developed a tool to crawl publicly available data from social media platforms. Current research focuses on Location-based clustering using tourists' flows in Portugal.

OFFICE HOURS

TBD

EMAIL

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PRE-REQUISITE COURSE(S)

None

COURSE UNIT AIMS. (Purpose of the course using broad, general terms)

This course aims to introduce students to the basics of programming. Students will be exposed to both theoretical and practical classes, where they will learn the fundamentals of programing, methodologies, and software tools that represent the mainstream in today's work environments.

Upon finishing the course, the student should feel comfortable with the principles of programming, having the basis to use most of the programming languages that are commonly used today. The students will learn to read, write and interpret code for relatively simple programs, as well as understand a program pipeline.

In this course, we use Python, one of the most popular programming languages, commonly used by business analysts and data science professionals. We will introduce the concepts of libraries, learn how to use them, and demonstrate the functionalities of some of the most important libraries for business students. For the practical exercises, we use Jupiter Notebooks in combination with GitHub.

Alongside programming, we will explore relevant associated technologies and their usages, with an objective to increase awareness and general understanding of these topics.

COURSE UNIT CONTENT. (Main topics covered in the course)
- Python programming language
  - Generic basics of programming
    - Data Types
    - Conditional programming
    - Functions
    - Iterations
  - Classes and Objects
    - Objects
    - Setters and getters
    - Polymorphism
    - Inheritance
  - Data Analysis libraries
    - Pandas
- Program Flow Control
- Version Control
    - GitHub basics
- Data management
    - I/O to files
      - TXT, CSV, XML, JSON
- Technology forums
  - Cloud
  - Mobility
  - APIs
  - Cyber Security
  - Big Data and Data Science
  - AI
  - Blockchain

LEARNING OBJECTIVES. Upon completion of this course, students should be able to:

A. Understand the general basics of programming;
B. Understand a program pipeline;
C. Understand the basics of data management;
D. Understand the basics concepts of data persistence;
E. Understand and learn new technology trends;

DEMONSTRATION OF THE COHERENCE OF THE SYLLABUS WITH COURSE UNIT AIMS

Having a general understanding of the basic concepts of programming will prepare the students to use most programming languages. Because of this, the syllabus approach is mostly practical, giving the students a good perspective on how programming can be used by them in their future professional life, no matter the language or technology they use. The syllabus was also thought to help students create a digital conscience about the advances and impact of technology today and in the future.

TEACHING AND LEARNING METHODS.

The course will have theory and practical classes.

Weekly, students will have one theory session and two practical sessions.

Theory sessions will be 60 to 80 minutes and will be followed by a practical session where the subjects presented before will be put in practice.

Students reading material will be delivered to students by the end of each session.

ASSESMENT

What	Weight
Final exam	25%
Class participation	10%
Quiz	15%
Individual project (in class)	15%
Group project	35%

BIBLIOGRAPHY.

Learning Python, 5th Edition by Mark Lutz, O'Reilly

Python Cookbook – David Beazley & Brian k. Jones, O'Reilly

Think Python – How to think like a computer scientist, Allen Downey, Green Tea Press

Python for data analysis, 2nd edition – by William McKinney

RESOURCES.

Will be delivered in class