esade

Data Analytics for Economics analysis with Python

UGRA_016138

Departments	Department of Economics, Finance & Accounting
Teaching Languages	English
ECTS	6
Teacher responsible	Manaev Vladimir - vladimir.manaev@esade.edu

Course Goals

This course aims to introduce first-year bachelor students to Python programming and data analysis techniques essential for business applications. Students will learn to manipulate and clean data using Pandas, apply descriptive statistics, and build linear regression models for predictive analysis. The course emphasizes practical skills in data handling, statistical analysis, and effective communication of insights through data visualization.

Previous knowledge

Students should feel comfortable using computers and be ready to learn Python for analyzing data. Prior programming or math knowledge is helpful but not necessary, as the course covers everything from the basics.

Prerequisits

No prior prerequisites are needed for this course.

Recomended courses

While familiarity with subjects like computer science, mathematics, and programming can be helpful, they are not required prerequisites for the Course. The course is designed to accommodate students with varying levels of prior knowledge by providing comprehensive instruction from the basics onward.

Description

Course contribution to program

This course on Data Analysis enriches the program by equipping students with practical Python coding skills essential for modern business environments. It empowers them to analyze and interpret data effectively, make informed decisions based on statistical insights, and communicate findings clearly—all of which are crucial competencies in today's data-driven industries.

Short description

This course teaches students how to use Python for data analysis in business contexts, focusing on practical skills like data manipulation, statistical analysis, and effective data presentation.

Bibliography

Python developers, Pandas, numpy and scipy documentation (Document)

Activities

Group presentations
 Group projects

Readings

Case study analyses
 Python Labs

Content

#	Topic
1	Intro to Python. Basic data types. Hints and tricks.
2	Intro to Pandas.
3	Basics of data cleaning in Python.
4	Leveraging Math: use of sympy, numpy, and scipy for the math computations.
5	Descriptive statistics in Python. EDA (Exploratory Data Analysis).
6	Linear regression model from a data science perspective, focusing on practical applications.

Assessment

Tool	Assessment tool	Category	Weight %
Group project	Group Project (40%)	Retake and ordinary round	40.00%
Participation in program activities	Participation	Retake and ordinary round	10.00%
Individual or team exercises	Individual Final Project (50%, with the defense)	Retake and ordinary round	50.00%

PROGRAMS

G114-Global Governance Exchange Program (Undergraduates: Law)
 G114 Year 1 (Optative)

G114S-Global Governance Exchange Program (Undergraduates: Law)
 G114S Year 1 (Optative)

GEL19-Bachelor of Global Governance, Economics and Legal Order (Undergraduates: Law)
 GEL19 Year 3 (Optative)