Subject

Data Visualization II

Year: 1   **Credits**: 3 ECTS   **Language**: Spanish

Competencies

Core competences:

CB1. Students have demonstrated knowledge and understanding in an area of study that builds on the foundation of general secondary education and is usually at a level that, while relying on advanced textbooks, also includes certain elements involving cutting-edge knowledge in their field of study

CB4. Students are able to convey information, ideas, problems and solutions to both specialist and non-specialist audiences.

General competences:

CG2. Curiosity and empathy

Specific competences:

CE08. Communicate effectively, responsibly and appropriately in the various communicative situations arising in the realm of business analytics, using data visualisation techniques and ensuring multilingualism.

Learning outcomes

RA2. Ability to ask questions, and to empathise with the problems and concerns of the people around them. This ability to listen enables the person to detect opportunities and identify the problems to be solved.

RA16. Communicate effectively, responsibly and appropriately in the various communicative situations that may arise in their professional environment

RA17. Know and use visualisation tools for decision making

Syllabus

Python graphics: matplotlib
- Anatomy of a graph: elements
- Types of graphs
- Arrangement of several graphics on one page

Python graphics: seaborn
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- Types of graphs
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Python interactive graphics: plotly

Designing a web application in Python: Dash

- Layout
- Components
- Interactivity
- User Experience

Graph design in Python
- Graphs using plotly
- Graphs in dash (cytoescape)

Storytelling through graphics: case studies

Training activities

The training activities planned for this module are the following:

- Challenge-based learning (1 ECTS)
- Teamwork (0.5 ECTS)
- Workshops (0.5 ECTS)
- Online resources (0.25 ECTS)
- Reflection (0.25 ECTS)
- Learning communities (0.25 ECTS)
- Individual work (0.25 ECTS)
- Carrying out projects with real companies (0 ECTS)

Assessment system

Assessment will be by means of the continuous assessment system, providing constant feedback to both teachers and students on the learning process throughout the academic period:

- Learning activities involving the presentation of knowledge and individual study may be assessed by means of oral and/or written tests, which will account for a maximum of 60% of the final mark.
- The training activities aimed at acquiring the practical skills of the subjects will be assessed through the completion of various activities (assignments, case studies, challenges, etc.) accounting for at least 40% of the final mark.

Details of the assessment and marking will be made explicit in the annual academic planning of the subjects, in accordance with the teachers responsible and the determining factors of each course.

Bibliography

- Nussbaumeí Knaflic, C (2015). Storytelling with data. United States. WILEY
- Dobler, M; Gromann, T. (2019). Data Visualization with Python: Create an impact with meaningful data insights using interactive and engaging visual. Packt.