

Degree programme	Type	Course
Interactive Communication	OB	3

Contact lecturer

Name : Gemma Gómez Bernal

Email : gemma.gomez.bernal@uab.cat

Group languages

You can consult this information at the [end](#) of the document.

Prerequisites

Basic computer skills and reading comprehension in English, as some bibliographic references and software documentation are in English.

Objectives

- Apply theoretical principles to analyze and visualize data.
- Plan and perform visual data analysis in accordance with different objectives.
- Select and apply different methods to collect, analyze and visualize data.
- Present and critically discuss different types of data visualizations.

Learning outcomes

1. Distinguish the salient features in all types of documents within the subject.
2. Cross-check information to establish its veracity, using evaluation criteria.
3. Submit course assignments on time, showing the individual and/or group planning involved.
4. Plan and conduct academic studies in the field of theory and practice of computer graphics and data visualisation.
5. Recognise the communicative and aesthetic norms of data visualisation.
6. Identify situations in which a change or improvement is needed.
7. Propose new methods or well-founded alternative solutions.
8. Propose projects and actions that are in accordance with the principles of ethical responsibility and respect for fundamental rights and obligations, diversity and democratic values.
9. Propose projects and actions that incorporate the gender perspective.
10. Communicate using language that is not sexist or discriminatory.
11. Evaluate the impact of problems, prejudices and discrimination that could be included in actions and projects in the short or medium term in relation to certain people or groups.
12. Analyse a situation and identify its points for improvement.
13. Weigh up the risks and opportunities of both one's own and other people's proposals for improvement.

Contents

- Fundamentals of data visualization and visual perception.
- Data processing and analysis.
- Design, formats and visual storytelling.

- Visualization tools.

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
Work process	30	1.2	1, 2, 3, 4, 5
Theory classes	15	0.6	1, 2, 3, 4, 5
Follow-up tutorials	6	0.24	1, 2, 3, 4, 5
Study and data search	30	1.2	1, 2, 4
Seminars	9	0.36	4, 5
Project exercises	22	0.88	1, 2, 3, 4, 5

The course is structured around three teaching methodologies: lectures, theoretical-practice seminars, and the development of a data visualization project.

- Lectures aim to deliver the core content of the syllabus.
- Theoretical-practical seminars focus on bridging theoretical concepts and their real-world applications.
- The project involves analyzing a dataset and creating a series of visualizations and an infographic.

A detailed schedule outlining the content of each session will be presented on the first day of the course and will be available on the course's Virtual Campus, where students will find the various teaching materials deemed appropriate by the instructors and necessary information for effective course monitoring. Should the teaching modality change for reasons of force majeure according to the competent authorities, the teaching staff will inform students of any modifications to the course schedule and teaching methodologies.

Class attendance and participation in the sessions dedicated to the project and seminars is mandatory.

Note: The course content will be sensitive to issues related to gender perspective and the use of inclusive language.

Annotation: within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continuous assessment activities

Title	Weight	Hours	ECTS	Learning outcomes
Theory test	40%	2	0.08	1, 2, 5, 6, 12, 13
Project	20%	30	1.2	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Seminars	40%	6	0.24	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

This course evaluation is based on continuous assessment (AC).

Specifically, the continuous assessment breakdown is as follows:

- Written exam (40%)
- Theoretical-practical seminars (40%)
- Project (20%)

The final grade will be the weighted average of the three graded components. However, to calculate this average, students must achieve a minimum score of 5 out of 10 on the written exam.

Given the practical nature of the seminars, active participation is required for grading. If a student is absent from a theoretical-practical seminar, they must complete an alternative assignment to make up the grade.

Reassessment: Students will be entitled to reassessment in the course if they have been evaluated through a set of activities accounting for at least two-thirds of the total course grade.

Only the written exam and the theoretical-practical seminars are eligible for reassessment. Consequently, the project is excluded from the reassessment process.

Single-assessment: This course does not provide for a single-assessment system.

Repeat students (second sitting or beyond): Assessment will consist of a synthesis test covering the learning outcomes set out in the course guide. In this case, the course grade will correspond solely to the result of that exam.

Plagiarism: In the event that the student commits any irregularity that could lead to a significant variation in the grade of an assessment act, this assessment act will be graded with 0, regardless of the disciplinary process that may be instituted. In the event that several irregularities occur in the evaluation acts of the same subject, the final grade for this subject will be 0.

Unassessable: Will be considered not assessable when the total weight of submitted assessment activities falls below 1/3 of the total course grade. Unexcused absences from graded activities may contribute to this determination.

Artificial intelligence: For this course, the use of Artificial Intelligence (AI) technologies is permitted exclusively for tasks explicitly indicated in class. Students must clearly identify any parts generated with these technologies, specify the tools used, and include a critical reflection on how AI has influenced the process and final outcome of the assignment. Failure to disclose the use of AI in this assessed activity will be considered a breach of academic integrity and may result in a partial or total penalty to the assignment grade, or more serious sanctions in severe cases.

Irregularities: The performance of any irregularity in an evaluation act (academic fraud, plagiarism or improper use of AI, unless this use is expressly authorized by the teaching guide), which may lead to a significant variation in the grade, assumes that this act will be graded with a 0. In the event that the teaching guide foresees that in order to pass the subject it is an essential requirement to have obtained a minimum grade in this evaluation act or that there are several irregularities in the evaluation acts of the same subject, the final grade of this subject is 0. Apart from this, a disciplinary process may be instructed to the student that incurs any of these irregularities.

Any student suspected of submitting assignments that have been generated by AI, written by others or copied; include unattributed AI-generated content, or fall outside the permitted scope, may be asked to provide the preliminary work or other materials that can demonstrate it is original work and the result of their own authorship. They may also be asked to separately explain or justify their work. Teachers may also use AI detection systems or carry out any verification tasks they deem appropriate. If, after review, the instructor detects irregularities, the assignment may be graded zero, and the student may be subject to further disciplinary action.

Bibliography

- Cairo, Alberto (2010). *El arte funcional: infografía i visualización de la información*. Alamut.

- Cairo, Alberto (2016). *The truthful art: Data, charts, and maps for communication*. New Riders.
- Gonstalla, Esther (2024). *Atlas of a Threatened Planet: 150 Infographics to Help Anyone Save the World*. Island Press.
- Knaflic, Cole Nussbaumer (2015). *Storytelling with data: A data visualization guide for business professionals*. John Wiley & Sons.
- Lupi, Giorgia, and Stefanie Posavec (2016). *Dear data*. Chronicle books.
- Mauldin, Sarah KC (2015). *Data visualizations and infographics*. Rowman & Littlefield.
- Rovira, Pere & Pascual, Víctor (2021). *Analítica visual. Cómo explorar, analizar y comunicar datos*. Anaya Multimedia.
- Sandell, Marybeth (2020). *Visualización de datos & Storytelling*. Barbara Covarrubias.

Additionally, supplementary reading will be provided as well as short articles that may be required for seminars.

Software

For the proper follow-up of the course, we will use the following software available at the Faculty:

- Excel.
- Tableau.
- Canva.
- Gephi.

Additionally, some extra software may also be used occasionally.

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this [link](#). To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(TE) Theory	6	Catalan	first semester	afternoon
(PLAB) Practical laboratories	61	Catalan	first semester	afternoon
(PLAB) Practical laboratories	62	Catalan	first semester	afternoon