

Academic Year: (2022 / 2023)

Review date: 19-05-2022

Department assigned to the subject: Communication and Media Studies Department

Coordinating teacher: RODRIGUEZ MATEOS, DAVID

Type: Compulsory ECTS Credits : 6.0

Year : 4 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

The subjects linked to this subject are closely linked to the basic notions of searching for and using information sources, textual and statistical data analysis and processing (using spreadsheets and other applications), information visualisation and web publishing, as well as journalistic design.

OBJECTIVES

The general competences of the subject are constituted by the following objectives:

1. INFORMATIVE OBJECTIVES

- Mastering the location, access and consultation of public and private information sources.
- Analysis of the reliability of information sources and their contents.
- Ability to search and obtain data in these sources, mainly through structured information sets (databases, open data repositories, public institutions, private companies and NGO websites, and other digital sources).
- Use of tools for obtaining structured content.
- Ability for textual analysis to detect data patterns and outliers that are potentially newsworthy.
- Ability to perform basic statistical analysis with quantifiable content, either numerical or texts that can be converted into news (by quantifying elements that are repeatable).
- Ability to organise, compile and arrange such data and values graphically, aesthetically and coherently.
- Perform graphic display of information visualisation elements and classify them in a newsworthy order of importance.
- Use the above skills to produce complex journalistic pieces, which may include content for investigative journalism.

2. TRAINING OBJECTIVES

- To transmit knowledge of concepts and terms related to data journalism.
- To encourage students to teamwork, both with other journalists or other professionals in the production of news and reports: graphic designers, experts in social sciences, IT professionals.
- Develop the creative capacity to analyse data and convert it into newsworthy content.
- Train and improve the ability to obtain and select reliable information derived from public and private sources.
- Acquire skills for the public presentation of work and projects associated with the subject.
- To develop the student's critical capacity and curiosity in order to provide him/her with critical, qualitative and quantitative judgements.
- To acquire habits of socialisation with students' partners, inside their professional environment (the classroom or the newsroom), through active debate, group work, the defence of their results and the analysis and constructive criticism of the work of other classmates and groups.

3. ATTITUDINAL OBJECTIVES

- To encourage and stimulate students' decision-making competence.
- To develop academic and intellectual skills that encourage students to engage in learning and lifelong learning tasks.
- To develop intuitive thinking through experimentation.
- To facilitate interpersonal development to communicate, the ability to understand others and the capacity to interact and work in teams.
- To encourage interest in the professional project in the specialisation of Data Journalism.

4. PSYCHOMOTOR OBJECTIVES

- To acquire the ability, mastery and understanding of the media and materials used in the communication of data, especially big data, for the generation of journalistic content.
- To promote the language of data and its codification, following the practical scenarios proposed in the

classroom.

- To improve the individual's natural capacity to perceive, memorise, imagine and develop a constructive and analytical form to manage data, through individual and collective practice.
- To promote the development of skills for integration into the world of work.

5. SPECIFIC COMPETENCES

- To train students in the knowledge of the process of data collection.
- To find ways and tools to present these data in an organised way.
- To develop the ability to communicate an idea and the search for reliable and contrasted sources in order to improve the information content.
- To be able to distinguish the elements that make up a journalistic product, and to improve the presentation of information with tools and graphics.

DESCRIPTION OF CONTENTS: PROGRAMME

1. INTRODUCTION TO DATA JOURNALISM. Concepts and practices included in data journalism. Phases and tasks of data journalism: select a topic, data collection, wrangling and analysis, display. Examples of data journalism. Data journalism and related disciplines.
2. BRIEF HISTORY OF DATA JOURNALISM. Background: precision journalism (CAR). Factors for the expansion of data journalism: opening of massive data sources, formats and tools for data processing.
3. BASIC CONCEPTS ABOUT DATA: sources, structures, formats. Datasets vs. databases. The concept of open data.
4. RELIABILITY OF SOURCES AND DATA: criteria and parameters.
5. PUBLIC DATA (I): institutions and organisations. Detection of sources and data. Data selection from a journalistic point of view.
6. PUBLIC DATA (II): access to public information beyond what is published. Transparency laws. Information requests.
7. DATA CLEANING. Understanding data. Transforming, improving and enriching data: main techniques. Some useful tools.
8. DATA ANALYSIS. Obtaining newsworthy data: patterns and outliers. Data enrichment. Tools for analysis: spreadsheets, data processing tools (free software and proprietary tools).
9. FINDING HEADLINES AND STORIES. Select newsworthy trends from data: relation between patterns, outliers and interest topics. Two-ways method: from data to the topic and viceversa.
10. ADVANCED DATA GATHERING TECHNIQUES: scraping, conversion of plain text into structured data, use of API, other options.
11. DATA DISPLAY (I): fundamentals of information visualisation. Principles and basic concepts. Creation of graphs, maps, timelines and other visual tools. Proprietary and free software. Techniques and tools.
12. DATA DISPLAY (II): content publishing. Basic web display. Advanced options: content generation, scrollytelling. Future trends.

LEARNING ACTIVITIES AND METHODOLOGY

- LECTURES.

Theoretical, analytical and observational classes focused on the acquisition of basic notions about data journalism, based on the syllabus of the subject. They will include review activities and class participation.

- PRACTICAL CLASSES.

Development and application of theoretical content. Learning sources, techniques and tools for selecting sources and data, obtaining data sets, cleaning and analysing them, generating content, visualising data-based content, and creating data journalism pieces based on the results obtained.

- STUDENT WORK

Tutored study of theoretical and practical content.

Practical exercises on the different topics. Team preparation and development of a final project for the course.

ASSESSMENT SYSTEM

ASSESSMENT IN ORDINARY EXAMS:

The course is face-to-face, and will be assessed in two parts:

- A practical part, examined by continuous assessment through the completion of several practicals. The sum of all of them will have a value of 60% of the course.
- A theoretical part, which will be examined by means of a final theoretical exam, with a value of 40%.

Each of these parts must be passed separately in order to proceed to the final calculation of the mark.

Those students who have not passed the continuous assessment will be entitled to a theoretical-

practical exam, although the total mark of this exam will only be equivalent to 60% of the mark for the subject, in accordance with UC3M's ordinary assessment regulations.

ASSESSMENT IN EXTRAORDINARY EXAMS

Those students who do not pass either of the two parts (or neither of them) in the ordinary assessment will be entitled to a theoretical-practical exam in the extraordinary call, worth 100%.

If a student has passed the continuous assessment in the ordinary assessment, he/she may choose in the extraordinary assessment to: take only the theoretical part of the exam, which will be combined with his/her continuous assessment.

Mastery of the rules of the English language is a prerequisite for passing the subject. This includes an adequate level of linguistic correctness in terms of punctuation, accentuation, grammatical correctness and lexical precision.

% end-of-term-examination:	40
% of continuous assessment (assignments, laboratory, practicals...):	60

BASIC BIBLIOGRAPHY

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- CAIRO, Alberto How Charts Lie: Getting Smarter about Visual Information, WW Norton & Co, 2020
- EGAWHARY, Elena; O'MURCHU, Cynthia Data Journalism, The Center for Investigative Journalism, 2012
- FLORES VIVAR, Jesús; SALINAS AGUILAR, Cecilia El periodismo de datos como especialización de las organizaciones de noticias en Internet., Correspondencias & Análisis, ISSN-e 2304-2265, ISSN 2224-235X, Nº. 3, 2013, págs. 15-34
- GRAY, Jonathan Gray; BOUNEGRU, Lilian; CHAMBERS, Lucy (editors) The data journalism handbook., European Journalism Centre. Open Knowledge Foundation., Sebastopol, California : O'Reilly Media 2012
<https://datajournalism.com/read/handbook/one>
- GRAY, Jonathan; BOUNEGRU, Liliana (editores) The Data Journalism Handbook 2, European Journalism Centre, 2019
- HOUSTON, Brant Data for Journalists. A Practical Guide for Computer-Assisted Reporting, Routledge, 2019
- PARASIE, Sylvain Computing the News. Data Journalism and the Search for Objectivity, Columbia University Press, 2022
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https://www.cjr.org/tow_center_reports/the_curious_journalists_guide_to_data.php, 2016
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