

Degree	Type	Year
Advertising and Public Relations	OB	3

Contact

Name: David Roca Correa

Email: david.roca@uab.cat

Teachers

Patricia Lazaro Pernias

Sara Vinyals Mirabent

Teaching groups languages

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

Prerequisites

This course has no prerequisites; however, it is advisable to review the notes of the second year methodology course (104899 Research Methods in Persuasive Communication).

Objectives and Contextualisation

1. General Objective

Master the principles of descriptive and inferential statistics, applying them to research and data analysis in the field of advertising and public relations.

2. Specific Objectives

- OE1. Acquire fundamental statistical techniques and tools for data collection, processing, analysis, and presentation.
- OE2. Critically interpret statistical results and reports derived from research projects, understanding their implications and limitations.
- OE3. Comprehend the potential and limits of statistics as an essential tool for communication research.
- OE4. Use the Jamovi software to apply descriptive and inferential statistics in the field of advertising and public relations research.
- OE5. Develop the ability to make informed and strategic decisions based on statistical data analysis, especially in the context of advertising campaigns and public relations strategies.

In summary, with these objectives, you'll not only gain knowledge of statistics, but we'll also prepare you for the complete cycle: from data analysis and critical interpretation to strategic decision-making in your professional field.

Learning Outcomes

1. CM20 (Competence) Interpret the results of research to provide innovative solutions to problems in the field of advertising and public relations.
2. SM18 (Skill) Apply knowledge of learning, emotions, attention, and memory to the development of persuasive communication strategies and messages.
3. SM19 (Skill) Defend the methodology, results, and conclusions of a communication research project orally and in writing, using effective and inclusive language.

Content

This syllabus aims to offer a comprehensive understanding of the fundamental principles of applied statistics and its application in the field of advertising and public relations. It is structured to facilitate the acquisition of knowledge from data management to critical interpretation and strategic decision-making.

Topic 0

0.1. Presentation

0.2. Database

Topic 1. Variable Management and Preparation

1.1. Types of variables according to their measurement level.

1.2. Variables according to their role in research.

1.3. Relevant variables in our field: advertising and PR.

1.4. Practical work with variables: Database cleaning, applying filters, recoding, and using 'split by'.

BLOCK 1. DESCRIPTIVE STATISTICS

Topic 2: Analysis of Qualitative Measures (Categorical Variables)

2.1. Univariate measures: Analysis of a single categorical variable.

2.2. Bivariate measures: Analysis of the relationship between two categorical variables.

2.3. Descriptive graphs for categorical data.

Topic 3a: Analysis of Quantitative Measures

3.1. Measures of central tendency: Mean, median, and mode.

3.2. Measures of dispersion: Variance, standard deviation, and standard error.

3.3. Shapes of data distribution.

3.4. Assessment of normality.

Topic 3b. Descriptive Graphs for Quantitative Measures

- 3.1. Error bar charts.
- 3.2. Histograms.
- 3.3. Density plots.
- 3.4. Box plots.
- 3.5. Violin plots.
- 3.6. Scatter plots.

BLOCK 2: INFERENCE STATISTICS

Topic 4. Fundamentals of Inferential Statistics

- 4.1. Key definitions in inferential statistics.
- 4.2. The Central Limit Theorem.
- 4.3. Calculation and interpretation of confidence intervals.
- 4.4. Hypothesis formulation and testing.
- 4.5. Type I and II errors: the importance of sample power.

Topic 5. Qualitative Associations: Chi-Squared Test (χ^2)

- 5.1. Presentation and use of contingency tables (especially 2x2).
- 5.2. Requirements for applying the Chi-Squared test.
- 5.3. Graphs for visualizing qualitative associations.
- 5.4. Procedure for applying the Chi-Squared test.
- 5.5. Calculation and interpretation of effect size.
- 5.6. Analysis of other contingency tables.
- 5.7. Post-hoc analyses.
- 5.8. How to write and communicate results.

Topic 6. Quantitative Associations: Correlations

- 6.1. Introduction to correlations: what they are and what they are used for.
- 6.2. Requirements for correlation analysis.
- 6.3. Scatter plots for correlations.
- 6.4. Procedure for calculating correlations.
- 6.5. Effect size of correlation.
- 6.6. Partial correlation (if time permits).
- 6.7. How to write and communicate results.

Topic 7. Comparisons i: T-test

7.1. Introduction: comparison of two groups on a quantitative variable.

7.2. Requirements for the T-test.

7.3. Graphs for comparing two groups.

7.4. Procedure for applying the T-test.

7.5. Effect size in the T-test.

7.6. How to write and communicate results.

Topic 8. Comparisons ii: One-Way ANOVA

8.1. Introduction: Comparison of more than two groups on a quantitative variable.

8.2. Requirements for One-Way ANOVA.

8.3. Graphs for comparing multiple groups.

8.4. Procedure for applying One-Way ANOVA.

8.5. Effect size in One-Way ANOVA.

8.6. How to write and communicate results.

Topic 9. Comparisons iii: Two-Way ANOVA (only if we have enough time)*

9.1. Introduction: Analysis of direct effects and interactions between two independent variables.

9.2. Requirements for Two-Way ANOVA.

9.3. Graphs for Two-Way ANOVA.

9.4. Procedure for applying Two-Way ANOVA.

9.5. Effect size in Two-Way ANOVA.

9.6. How to write and communicate results.

Note: This syllabus may be adapted based on the achievement of learning objectives, class group questions, and other unforeseen circumstances that may arise during the course.

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Practical exercises	37	1.48	
Theory	15	0.6	
Type: Supervised			
Tutoring, exercise review, etc.	7.5	0.3	
Type: Autonomous			

1. Gender Perspective and Inclusive Language

- The subject content will strive to be sensitive to aspects related to gender perspective and the use of inclusive language.

2. Innovative Teaching Methodologies

We'll use a flipped classroom teaching methodology, and if possible, Service-Learning (APS) in some practical activities.

3. Subject Planning and Virtual Campus (Calendar)

- The detailed calendar with the content of the different sessions will be presented on the subject's introductory day and will also be available on the subject's Virtual Campus, where students can find various teaching materials and all necessary information for proper subject follow-up. In case of a change in teaching modality due to force majeure reasons, as determined by the competent authorities, the faculty will inform students of any changes in the subject's programming and teaching methodologies.

4. Training Activities

1. Prior class preparation (flipped classroom): reviewing theory slides, watching videos, studying readings, and creating mind maps if applicable.
2. Theoretical classes: explanation of concepts and application in Jamovi.
3. Practical classes with Jamovi: case presentation, development with Jamovi, and group tutorials in the classroom (we'll do our best to assist all students).
4. Tutorials and doubt sessions if necessary.
5. Other optional activities as appropriate: attending thesis defenses involving statistics, guest speakers, talks, etc.

Note: Due to unforeseen circumstances, this methodology and/or calendar may be modified based on the achievement of the stated objectives.

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

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Practical tests or practice	50%	5	0.2	CM20, SM18, SM19
Theoretical tests (descriptive and inferential)	50%	5	0.2	CM20, SM18, SM19

1. Activities / Continuous Assessment System

1.1. The assessment of the subject is based on four tests: two with theoretical content and two with practical content.

1.2. Each test has the same weight in the final grade:

12a. Theoretical Tests (50%): Two theoretical tests will be conducted, each with a value of 25% of the final grade. For the average of this block to be included in the final grade, the average of the two theoretical tests must be equal to or greater than 5. 12b. Practical Tests (50%): Two practical tests will be conducted, each with a value of 25% of the final grade. For the average of this block to be included in the final grade, the average of the two practical tests must be equal to or greater than 5.

1.3. To pass the subject, a minimum final grade of 5 (out of 10) must be obtained, resulting from the weighted average of the four tests, provided that the minimum requirements in the theoretical and practical blocks are met.

2. Continuous Assessment Resit

2.1. The four tests included in the assessment system are eligible for resit.

2.2. Students who, after completing all assessment tests, have not achieved a minimum average of 5 in one of the two blocks (theoretical or practical), may opt to resit the corresponding test or tests.

2.3. The maximum grade obtained in any resit test will be 5 points.

2.4. To be eligible for resit, students must have been assessed on a minimum of 2/3 of the total assessment activities for the subject, in accordance with UAB academic regulations.

3. Single Assessment and its Resit

This subject follows a continuous assessment model and does not provide for a single assessment.

4. Synthesis Test (Assessment for Students in Second or Subsequent Enrollments)

Students in their second enrollment have the option to pass the subject with a synthesis test that will be conducted individually. The specific characteristics of the test will be communicated at the beginning of the course.

5. Indications Regarding "Not Assessed"

5.1. According to point 9 of article 266 of the UAB Academic Regulations, "when it is considered that the student has not been able to provide sufficient assessment evidence, this subject must be graded as not assessed," and at the same time the teaching guide must establish the criteria for assigning a "not assessed" grade.

5.2. Criteria for being considered 'not assessed': Students who have not completed at least 33% of the assessment activities planned for the subject will be considered 'not assessed' and this will be reflected in the final grade.

6. Plagiarism

In the event that the student commits any irregularity that may lead to a significant variation in the grade of an assessment activity, that assessment activity will be graded with a 0, regardless of any disciplinary process that may be initiated. If multiple irregularities occur in the assessment activities of the same subject, the final grade for that subject will be 0.

7. Use of Artificial Intelligence

In this subject, the use of Artificial Intelligence (AI) technologies is not permitted in any of its phases. Any work that includes fragments generated with AI will be considered an act of academic dishonesty and may result in a partial or total penalty on the activity's grade, or more severe sanctions in serious cases.

Bibliography

Badiella, Llorenç, Blasco, Anabel, Boixadera, Ester, Valero, Oiliver, Vázquez, Ana (2021). Manual de Introducción a Jamovi: una interfaz gráfica para usuarios de R. Barcelona: SEA (UAB).

Elosua Oliden, Paula, & Egaña, Martín (2020). Psicometría aplicada. Guía para el análisis de datos y escalas con jamovi. EHU.

Navarro, Danielle, & Foxcroft, David (2019). Learning statistics with jamovi: A tutorial for psychology students and other beginners (Version 0.70). *Tillgänglig online: <http://learnstatswithjamovi.com> [Hämtad 14 december]*.

Quesada, Miguel, Ajenjo, Marc, & Griera, Oriol (2021). MUJADES: Manual d'us de jamovi per anàlisi de dades en estudis socials. Barcelona: UAB.

References (APA Style)

Software

FREE SOFTWARE

- Jamovi (<https://www.jamovi.org/>)

Jamovi is a free and open-source statistical software designed to be a user-friendly and intuitive alternative to more complex and expensive programs.

Key features:

- Intuitive Graphical User Interface (GUI): It closely resembles a spreadsheet (similar to Excel or Google Sheets), making it easy to learn and use, even for users without prior programming or statistics experience.
- Based on R: Despite its simple interface, Jamovi uses the powerful statistical programming language R as its underlying engine. This means it has access to a wide range of advanced statistical techniques constantly developed by the R community. It even lets you visualize the R code that generates the analyses.
- Designed for teaching and research: It's very popular in academia due to its ease of use, allowing students and researchers to perform statistical analyses without needing to master programming.
- Comprehensive statistical analyses: It allows for a wide variety of analyses, including:
 - Descriptive statistics (frequency tables, means, standard deviations, graphs).
 - Inferential tests (t-tests, ANOVA, correlations, regression, Chi-square).
 - Factor analysis, reliability analysis, etc.
- Dynamic results: One of its great advantages is that analysis results automatically update if you modify the data. Additionally, results and graphs are generated in a separate window, and you can easily export them in various formats.
- Modular: It allows you to add additional functionalities through "modules" developed by the community, extending its capabilities.
- Free and open-source: It's available for Windows, macOS, and Linux at no cost, and its source code is open, fostering collaboration and community development.

In summary, Jamovi is an excellent tool for anyone who needs to perform statistical analyses efficiently and understandably, without having to grapple with programming complexity, while still leveraging the power of R.

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PLAB) Practical laboratories	51	Catalan	first semester	afternoon
(PLAB) Practical laboratories	52	Catalan	first semester	afternoon
(PLAB) Practical laboratories	53	Catalan	first semester	afternoon
(TE) Theory	5	Catalan	first semester	afternoon