Statistics I is a 6 credit course lectured in the 1st semester of the 1st course of the degree of Psychology. The overall aim of the course is to provide procedures to respond to issues of interest to psychologists using descriptive statistical analysis of data in situations contextualizing chords to different research methods. The descriptive data analysis techniques are prerequisite to other obligatory subjects of the curriculum, such as Statistics II, Psychometrics and Research Design, and other optional subjects. The statistical concepts are also required to carry out empirical research in different subjects and areas of expertise as well as theoretical understanding of the foundations of empirical knowledge of the behavior.
Relationship to other subjects of the same degree
There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements
Computer user level: knowledge of basic computer use, Web surfing and office applications (word, excel, power point). Fundamentals of Mathematics: arithmetic and algebra.

OUTCOMES

1319 - Grado de Psicología
- Students must have acquired knowledge and understanding in a specific field of study, on the basis of general secondary education and at a level that includes mainly knowledge drawn from advanced textbooks, but also some cutting-edge knowledge in their field of study.
- Students must have the ability to gather and interpret relevant data (usually in their field of study) to make judgements that take relevant social, scientific or ethical issues into consideration.
- Students must be able to communicate information, ideas, problems and solutions to both expert and lay audiences.

LEARNING OUTCOMES
Student must:
  a) Know and apply correctly descriptive statistical procedures of data analysis that are most commonly used in the process of obtaining scientific information in the field of psychology.
  b) Managing computerized data sets: organize, enter and process the data correctly.
  c) Select the most appropriate techniques for the description of both univariate and multivariate data.
  d) To perform the calculations.
  e) Interpret results and draw conclusions.
  f) Express the results and conclusions in technical language understandable to nonprofessionals.
**DESCRIPTION OF CONTENTS**

### 1. The process of scientific research.
1. Research, knowledge generation, science in psychology.
2. Role of Statistics in Psychology.
3. Basic statistical concepts (sample, population, sampling, etc).
4. Theories, Models, Questions / problems, hypotheses.
5. Variables: Definition, types and scales of measurement.
6. Research methods and designs.
7. Data analysis, interpretation and evaluation of results.
8. The research report.

### 2. Data Organization
1. Introduction.
2. Coding, data entry, cleaning, processing and file processing.
3. Outliers.
4. Missing values.
5. Frequency distribution.
6. Introduction to the quantiles.
7. Charts for qualitative and quantitative variables.

### 3. Group description
1. Introduction.
2. Central tendency: mode, median, arithmetic mean and other measures. Definitions, calculations, characteristics and criteria of use.
3. Variability: Range, Variance, Standard Deviation (sample and population) and other measures (interquartile range, and coefficient of variation). Definitions, calculations, characteristics and criteria of use.

### 4. Measures of individual position
1. Introduction.
2. Quantile: Ranges Percentiles, Percentiles, Deciles and Quartiles.
4. Derived scales.

### 5. Association
1. Introduction.
2. Bivariate tables and graphs.
4. Semiquantitative variables: Spearman coefficient.
5. Qualitative variables: Indices Chi Square and Cramer’s V.
6. Association between variables of different scales.
7. Concept of nonlinear relationships.
6. Linear regression
1. Introduction.
2. The equation of the line.
3. The least squares criterion.
4. Graphical representation.
5. Standardized regression coefficients.
6. The coefficient of determination.
7. Introduction to multiple regression multiple correlation and partial.

7. Use of probability in psychological research
1. Introduction.
2. Random variables.
3. Probability function and distribution function.

8. Major probability distributions
1. Discrete random variables: binomial distribution.
2. Continuous random variables: normal distribution.
3. Continuous random variables: t distribution.
4. Continuous random variables: Chi Square distribution.
5. Continuous random variables: F distribution.

WORKLOAD

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<thead>
<tr>
<th>ACTIVITY</th>
<th>Hours</th>
<th>% To be attended</th>
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<tbody>
<tr>
<td>Theoretical and practical classes</td>
<td>60,00</td>
<td>100</td>
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<tr>
<td>Attendance at events and external activities</td>
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<tr>
<td>Development of group work</td>
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<tr>
<td>Development of individual work</td>
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<td>Study and independent work</td>
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<tr>
<td>Preparation of evaluation activities</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>150,00</strong></td>
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</table>

TEACHING METHODOLOGY

The teaching of the course combine the following strategies:

(1) Exhibitions and presentations (lectures) of the contents of the subject.

(2) Practical classes based on exercises, such as data introduction and processing, or case studies.

(3) Scheduled group tutoring if necessary.

(4) Preparation of the required work independently.
EVALUATION

Student evaluation will result in a score of between 0 and 10 points. This rating is based on the evaluation of the following three sections:

- **Section 1**: ASSESSMENT OF CONTENTS Theoretical and Practical BY ORAL TEST, WRITTEN OR PERFORMANCE OF SKILLS. Will represent **60% of the final grade** (6 points of the final mark).

- **Section 2**: ORAL OR WRITTEN SUBMISSION OF REPORTS, PAPERS individual or group, clinical cases, TROUBLE AND MANAGEMENT OF DIAGNOSTIC TESTS. Will involve **20% of the final grade** (2 points of the final mark).

- **Section 3**: Active participation in class activities, SEMINARS AND WORKSHOPS AND MOTIVATION FOR QUALITY OF LEARNING OUTCOMES. Will involve **20% of the final grade** (2 points of the final mark).

Additional considerations:

1. To pass the course will need to achieve a minimum 50% proficiency in each of the sections of evaluation.
2. Only the different sections referred to in the assessment will be added when the minimum requirements are exceeded for each of them.
3. If not approved on first call the required in the Section 1, will be saved for the second call points earned in the other sections.
4. The number of activities and the date of realisation will be established by the professor along the course. These activities will be able to have an individual character or group and have to comprise contents of the educational guide.
5. The grade for the course will be subject to the provisions of the Regulations ratings the University of Valencia (ACGUV 12/2004). According to this, it is specified in numerical expression from 0 to 10 with a decimal, using the following rating scale:

   - From 0 to 4.9: Suspense
   - From 5 to 6.9: Approved
   - From 7 to 8.9: Remarkable
   - From 9 to 10: Outstanding or outstanding with honor.

6. The copying or plagiarism manifest any part of the evaluation task will make it impossible to pass the course, then submitting to the appropriate disciplinary procedures.
7. Note that, according to Article 13 d) of the Statute of the University Student (RD 1791/2010, of December 30), it is the duty of a student abstain from the use or cooperation in fraudulent testing procedures evaluation in the work carried out in official documents or college.
8. In tutoring schedule, teachers may require individual or group interviews provided to verify the degree of participation and achievement in the objectives set for any task performed. Not accept such verification, will not exceed the task or activity in question.
9. The marks obtained in the first call will be incorporated in the minutes of the subject according to the following rules:

- If there is no qualification evaluation section with greater weight, the rating will not be presented, regardless of the rest.
- If there's rating in the evaluation section with greater weight and does not reach the minimum requirements shall be entered SUSPENSE and base 10 numerical grade qualification of this section.
- If there's rating in the evaluation section with greater weight, and this exceeds the minimum requirements, but those requirements are met in any of the remaining sections consist SUSPENSE and numerical note will be based 10 qualifying paragraph by which does not exceed the subject.

10. SECOND CALL, proceed according to the following rules:

- Only fit the PRESENTED NO option when has not been presented to more than one of the sections of assessment, including among these the highest weighting.
- If scores in all sections of assessment and no minimum requirements are met in any of them, and the note will consist SUSPENSE base 10 corresponding to the section that has not been surpassed. If more than one section, the unsurpassed, consist the maximum score within the suspense in base 10.
- If you do not exceed one or more of the minimum requirements and lack a section evaluation shall be recorded and numerical note SUSPENSE base 10 of qualification paragraph not exceeded.
- If two evaluation points are exceeded and there is a third party that has not presented evidence evaluation shall be recorded SUSPENSE and as rating, the average score being 0.0 part not presented (maximum possible 4.9).
- If the test higher weight is exceeded, but evidence is lacking in one or more of the other sections, consist SUSPENSE. Parts are added together and: a) if the sum is less than 5, it will be recorded as a result; b) if the sum is greater than 5, shall be recorded 4.9.

11. The consultation and appeal of the qualification obtained shall be subject to the provisions of Regulation Contesting Ratings (ACGUV of April 29, 2008).

REFERENCES

Basic

Additional

