



**COURSE UNIT INFORMATION SHEET (SYLLABUS)  
2022/2023**

**Study Program: Postgraduate Diploma in Data Analysis in Psychology**

<b>Name</b> <b>Non-Parametric Tests II (TNP II)</b>
<b>Teaching staff</b> (Also indicate the Professor in charge) <b>Ana Sousa Ferreira</b> (Professor in charge)
<b>ECTS</b> <ul style="list-style-type: none"><li>▪ 6 ECTS</li></ul>
<b>Functioning</b> <ul style="list-style-type: none"><li>▪ 18 hours/semester of Theoretical-practical classes taught sequentially.</li></ul>
<b>Learning goals</b> <p>Expand and improve the expertise to investigate in the field of Psychology, equipping students with more methodological knowledge, introducing non-parametric statistical methods, which allow the development of research projects and data analysis in this field.</p>
<b>Skills to develop</b> <ol style="list-style-type: none"><li>1. Choosing suitably between different techniques of data analysis, namely between parametric and non-parametric techniques, according to the nature of the data under analysis and their assumptions;</li><li>2. To know how to efficiently use computers and statistical software, enabling support to communication, data collection and analyzing information;</li><li>3. Know how to use the statistical language clearly and correctly.</li></ol>
<b>Prerequisites</b> (precedences)*  Not applicable.
<b>Contents</b>  <b>Non-Parametric Tests for the comparison of three or more populations</b>



1. Non-Parametric Tests for Paired Samples: Cochran test, Friedman test;
2. Non-Parametric Tests for Independent Samples: Kruskal-Wallis test;
3. Multiple a posteriori comparison for non-parametric tests;
4. Non-parametric approach of ANOVA and MANOVA;
5. Dimensional effects measures for non-parametric tests.

### Bibliography

- Conover, W. J., (1980). *Practical nonparametric statistics* (3<sup>rd</sup> ed.). New York: John Wiley & Sons.
- Hollander, M., Wolfe, D. A., & Chicken, E. (2013). *Nonparametric statistical methods*. New Jersey: John Wiley & Sons.
- Gray, C. D., & Kinnear, P. R. (2012). *IBM SPSS statistics19 made simple*. New York: Psychology Press.
- Marôco, J. (2011). *Análise Estatística com o SPSS Statistics*. Lisboa: ReportNumber, Lda.y Press.
- Siegel, S., & Castellan, N. J. JR.( (1988). *Nonparametric statistics for the behavioral sciences* (2<sup>nd</sup> ed.). New York: McGraw-Hill.

### Teaching methods

Theoretical-Practical classes (15h TP + 3 OP): Introduction of concepts based on the analysis of examples of real data, oriented to the area of Psychology, with the use of masterly and dialogued exposition. Classes are guided by the principle of "learning by doing" and consists of the discussion and resolution of applied exercises with the support of statistical software's, intended to cement and complement the knowledge acquired.

### Evaluation Regimes (General and/or Alternative)

Successfully completing the Postgraduate Diploma course is conditional on the realization of three mandatory evaluations elements:

1. **Global approval on Learning control sheets in each curricular unit.** These sheets are multiple choice sheets in a applied context with questions and random answers alternatives, and is performed in the *e-learning ULisboa (Moodle)* at the end of each c. u. (minimum grade of 9.5 values).
2. **At the end of the first semester**, an individual work that consists of a critical analysis of a scientific article, namely its methodological section and how the research hypothesis/objectives/questions are well articulated with the proposed data analysis strategy, the results obtained, and the discussion presented (minimum grade of 9.5 values).
3. **At the end of the second semester**, an individual work aimed at the application skills acquired in the various curricular units, applying advanced data analysis techniques, and including the analysis, interpretation and reporting of a set of data collected by application of a questionnaire.



### Evaluation Elements (Dates due, weights, minimum required grades)

Approval in the **Postgraduate Diploma in Data Analysis in Psychology** requires obtaining a final weighted average (among the three assessment components) **greater than or equal to 9.5 values** among the following results:

- 1. Average of the grades of all the Learning Control Sheets related to each curricular unit, with a weighting of 50% in the final grade;**
- 2. Grade in the Critical analysis of a scientific article, with a weighting of 25% in the final grade;**
- 3. Grade in the individual work with a weighting of 25% in the final grade.**

### Rules for grade improvement

The grade improvement may only occur in the assessment elements performed individually.

### Rules for students having previously failed the course unit

Not applicable.

### Requirements on attendance and punctuality

Classes operate in a hybrid regime and punctuality and student participation in at least 2/3 of the total number of classes are assumed.

### Rules for special students (workers, elite athletes, student body leaders, military, fathers/mothers, with special needs) \*

General rules of the FPUL.

### Language of instruction

Portuguese but English reading domain is necessary.

### Disciplinary violations and penalties

Consult the “Regulamento Geral de Avaliação de Conhecimentos e Competências dos Alunos ([RGACCA](#)) (Capítulo IV)”.

\* If applicable