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UE 3.4. Fundamental and methodological concepts for analysis in Biology and Health Science **3ECTS**

Shared teaching

EC1: Basic biostatistics

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Summary

This teaching subunit presents the main types of statistical analyzes and their conditions of use. Students are trained in the use of R software. The objective is to allow the student to be able to analyze and interpret data from experimental or clinical research independently.

Block of Skills and Knowledge -BCC 3: Develop and implement an experimental approach in Biology and Health

Skills acquired (direct / indirect):

- Implement an experimental approach in Biology and Health Sciences (SB3): by knowing the limits of validity of a model and by identifying potential sources of error; by arguing choices in relation to the techniques used;

- Analyze collected data in a basic, clinical or pharmacological research study (SB4): by selecting the appropriate tools for the analysis; by exploiting, reviewing and contextualizing experimental data and by making a critical analysis according to the standards of the field, respecting the principles of scientific integrity; by validating a model by comparing assumptions with experimental results; by assessing the limits of validity of a model and identifying the sources of error.

Short Program:

- Descriptive statistical analysis methods
- Parametric inferential analysis methods (sampling distribution, confidence intervals, usual hypothesis tests: Chi-square, Student, nullity of rô)
- Non-parametric inferential analysis methods (binomial test, Mann-Whitney, Kruskal-Wallis, paired Wilcoxon, Spearman correlation)

Test: written test