



Adam Mickiewicz University in Poznań

Doctoral School of Languages and Literatures



Statistics in scientific research

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Type of classes	workshop
Language of instruction	English
The number of hours + form of passing classes	15 hours / credit of a grade
Puproses of classes	<ul style="list-style-type: none"> • increase the students' understanding of quantitative methods in the humanities • enable the students to formulate testable research questions and hypotheses • enable the students to employ various statistical methods in R to explore data, address research questions, and test hypotheses in the humanities
Learning contents	<ul style="list-style-type: none"> • Introduction and study design for quantitative research (2hrs): The benefits of using quantitative methods in research Operationalization of research questions & formulation of testable hypotheses Basic concepts in statistics (types of data, types of variables, types of errors) • Taking first steps in R (2hrs): installing packages loading data inspecting your data in R handling your data bivariate tests for statistical significance • Multivariate analyses: Exploration of categorical data in medical humanities (5hrs) Visualizing and identifying patterns within your sample Interpreting and reporting the results • Multivariate analyses: Confirmatory statistics for categorical data in medical humanities (6hrs)

	Identifying statistically significant patterns beyond the sample Interpreting and reporting the results
Entry requirements	
Learning outcomes	
	Verification methods:
<p>In terms of knowledge: A person who has completed classes knows and understands:</p> <p>the achievements of world science in the discipline in which the education takes place, as well as the paradigms and directions of development of this discipline, in a way that enables their creative and innovative development and their verification within the framework of research projects undertaken [E_W01];</p> <p>at an advanced level research methodology appropriate for the discipline of science in which education takes place, which allows for proper selection of research theories and tools and their effective application and modification within the framework of own research [E_W02];</p>	<p>Evaluation will be based on home assignments and the successful completion of a small project.</p>
<p>In terms of skills: A person who has completed classes is able to:</p> <p>use knowledge from various disciplines of science to creatively identify, formulate and innovatively solve complex research problems or perform advanced research tasks. In particular, he/she is able to: define the objectives and the subject of scientific research, formulate research hypotheses, develop research methods, techniques and tools and apply them creatively and effectively, draw conclusions on the basis of scientific evidence [E_U01];</p>	
<p>In terms of social competences: A person who has completed classes is prepared to:</p> <p>act in accordance with the ethical principles of scientific work and interpersonal relations; moreover, he/she is ready to build the ethos of the scientific and professional environment [E_K02]</p>	
Literature	<p>Baayen, Harald. 2008. <i>Analyzing linguistic data: A Practical Introduction to Statistics</i>. Cambridge: Cambridge University Press.</p> <p>Glynn, D. & J. Robinson (Eds.). 2014. <i>Corpus methods for semantics: Quantitative studies in polysemy and synonymy</i>. Amsterdam: John Benjamins.</p> <p>Gries, Stefan. 2009. <i>Statistics for linguistics with R</i>. Berlin: De Gruyter Mouton.</p> <p>Levshina, Natalia. 2015. <i>How to do linguistics with R. Data exploration</i></p>

and statistical analysis. Amsterdam: John Benjamins.