

Syllabus

Quantitative-Empirical Research Practice

The name and contact information of the professor

Tamás Tóth PhD, toth.tamas3@uni-nke.hu

Course Description:

Quantitative research methods are not just about numbers; they provide a structured way to gather, analyze, and interpret data. For PhD students, these skills mean they can move beyond subjective impressions to make data-informed decisions, whether it's about content creation, campaign strategies, or understanding audience preferences. Learning quantitative research methods is essential for students for several practical and specific reasons such as understanding audience behavior, evaluating the effectiveness of communication campaigns, survey design and public opinion research, media content analysis, improving persuasive communication, and analyzing trends in social media. Finally, the class helps student conduct research that meets academic criteria and requirements which are sufficient to provide sound methods for their theses.

A list of textbooks and other useful sources:

Navarro, D.J., Foxcroft, D.R., & Faulkenberry, T.J. (2019). Learning Statistics with JASP: A Tutorial or Psychology Students and Other Beginners.

Goss-Sampson, M. A. (2024). Statistical Analysis in JASP 0.18.3: A Guide for Students. March 2024.

Research By Design YouTube Channel

Jasp Statistics YouTube Channel

Required software: MS Excel, [Dfreelon.org](https://dfrleon.org), and JASP (free, open-source software).

Databases: the instructor will provide databases but the students can develop a database for themselves for a full grade upgrade.

Detailed agenda on what students will learn during the semester

Quantitative Content Analysis (QCA)

Topics: How to perform QCA and reliability analysis. Moreover, we address what the differences are between quantitative and qualitative content analyses.

Practicing QCA

Topics: Activity: Practical exercise where students conduct QCA.

Introduction to JASP – Descriptive Statistics

Topics: Mean, median, mode, standard deviation, range, skew and kurtosis.

Source:

https://www.youtube.com/watch?v=LzcFcXVtbdo&list=PLVI_iGT5ZuRnIqpav1UaadEJmj2e8QHzn&index=7;
https://www.youtube.com/watch?v=2p0sG4-4MBs&list=PLVI_iGT5ZuRnIqpav1UaadEJmj2e8QHzn&index=8

Source: Navarro, D.J., Foxcroft, D.R., & Faulkenberry, T.J. (2019). Learning Statistics with JASP: A Tutorial for Psychology Students and Other Beginners. pp. 55-78.

Variability

Topics: Computing Variability (Standard Deviation, Variance, & Range)

Source:

https://www.youtube.com/watch?v=pcqyblv1C6s&list=PLVI_iGT5ZuRnIqpav1UaadEJmj2e8QHzn&index=9

Drawing Graphs

Topics: Histograms, Boxplots

Source: Navarro, D.J., Foxcroft, D.R., & Faulkenberry, T.J. (2019). Learning Statistics with JASP: A Tutorial for Psychology Students and Other Beginners. pp. 83-90.

Hypothesis Testing

Topics: Null and alternative hypotheses, p-values, Type I and Type II errors.

Source: https://www.youtube.com/watch?v=wRX8F5b3K_g

Source: Navarro, D.J., Foxcroft, D.R., & Faulkenberry, T.J. (2019). Learning Statistics with JASP: A Tutorial for Psychology Students and Other Beginners. pp. 153-181.

Correlation Analysis and One-way ANOVA

Topics: Pearson's correlation, scatterplots, interpreting correlation coefficients /
Conducting one-way ANOVA analysis.

Source: https://www.youtube.com/watch?v=pr_h-qsILoQ&t=1s;
<https://www.youtube.com/watch?v=UTOviKjMqBU&t=4s>

Source: Navarro, D.J., Foxcroft, D.R., & Faulkenberry, T.J. (2019). Learning Statistics with JASP: A Tutorial for Psychology Students and Other Beginners. pp. 251-261.

Linear Regression Analysis

Topics: Simple linear regression, interpretation of regression outputs.

Source: <https://www.youtube.com/watch?v=vKGphOrzze8&t=41s>

Output and requirement:

The students must perform one quantitative analysis from the above, and present the results.

The analysis could be conducted offsite but the presentation has to be an in-class activity during the second meeting.

Meetings:

- 1) 14 November 2025, 10 am**
- 2) 21 November 2025, 10 am**