SYLLABUS

1. Course title:

STATISTICS IN PEDAGOGY AND PSYCHOLOGY II

2. Code:

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

Statistics in Pedagogy and Psychology I

7. Class restrictions:

none

8. Duration / semester:

1 2

9. Weekly contact hours:

9.1. Lectures:	3
9.2. Seminars:	0
9.3. Laboratory/Practice classes:	2

10. Faculty:

Humanities and Social Sciences

11. Department/study program:

Pedagogy-Psychology

12. Lecturer:

Alija Selimović

13. Lecturer's e-mail:

alija.selimovic@untz.ba

14. Web site:

(max. 50 characters)

15. Course aims:

The main aims of this course are:
- Mastering the basic principles of statistical data analysis and mastering the most commonly used procedures of statistical analyzes in psychology and pedagogy
- Adoption of basic knowledge on basic multivariate analyzes
- Demonstration of algorithms and programs for performing basic multivariate statistical procedures
- Adequate selection of statistical methods for analysis of experimental designs;
- Independent application of statistical methods as well as development of the ability to interpret the obtained results;
- Adequate drawing of conclusions based on results obtained using statistical methods.

16. Learning outcomes:

At the end of the course the students are expected to be able:
• to select statistical methods for simple data analysis;
• to carry out statistical analyzes using popular statistical packages;
• to interpret the obtained results;
• to follow the contents of the Psychometrics

17. Course content:

- Linear correlation and simple regression analysis (relation of correlation and regression, predictor and criterion variable, principle of least squares, test of statistical significance of linear correlation, prerequisites for use of regression),
- Multiple regression analysis (concept of composite variable and linear combination of variables, prerequisites for use of multiple regression, multiple linear regression model, principle of least squares, problem of contribution of predictor variables in explaining criterion variable, semipartial and partial correlation, stability of regression model, effect size),
- Binary logistic regression (binary criterion variable in regression model, evaluation of parameters of logistic regression model - principle of maximum likelihood, conditions for use of binary logistic regression
- One-Way univariate analysis of variance (model of fixed and random effects, global zero test hypothesis)
- Two-factorial univariate analysis of variance (between-subject factorial design; interaction of factors)
- Analysis of variance within-subject designs (model with one and two repeat factor, global test H0)
- Statistical Methods for Data Analysis in Rankings (Spearman ro, Kandall tau, W, Mann-Whitney test)
- Robust statistical methods (robust parameters and estimators, basic robustness criteria)

18. Learning methods:

Lectures and practical classes with the use of various multimedia teaching aids, including active participation of students.
In lectures and practical classes will be used: the method of oral presentation, method of demonstration and illustration, seminar discussions, interactive teaching methods.

19. Assessment methods:

The written method of assessment includes two tests, including the topics covered during the semester up to that point both in lectures and in practical classes. Students can earn a maximum of 20 points per test.
The final exam is in written form, and includes the topics covered over the entire semester. Students can earn a maximum of 50 points on the final exam.
Pre-exam points amount to a total of 50 points (40 points for the two tests and another 10 for attendance and active in-class participation. By fulfilling all of their requirements, students can thus earn a maximum of 100 points.
Test points count towards the final grade cumulatively if students score at least 50% points on both the test and final exam.
In order for students to earn the minimum passing grade, they need to score at least 54 cumulative points, of which at least 25 on the final exam. The final grade is formed as a sum of all points earned in-class, the test and the final exam.

20. Assessment components:

Attendance in lectures and practical classes: 10 points
Active participation in lectures and practical classes: 10 points
Individual project: 10 points
Group project: 10 points
Final written exam: 50 points
Final oral exam: 10 points
Total points: 100
The following is the grading scale, showing the points, numerical grade, descriptive grade and letter grade:
0-53 5 (five) fail F
54-63 6 (six) satisfactory E
64-73 7 (seven) good D
74-83 8 (eight very good C
84-93 9 (nine) excellent B
94-100 10 (ten) outstanding A

21. Required reading list:

- Petz, B., Kolesarić, V., Ivanec, I. (2012). Petzova statistika : osnove statističke metode za nematematičare. Jastrebarsko: Naklada Slap
- Aron, A., Coups, E. J., & Aron, E. N. (2013). Statistics for Psychology (6th Ed.). Upper Saddle River: Prentice Hall, Inc.
- Cohen, B., (2013). Explaining Psychological Statistics. (4th Ed.). Wiley.
- Tenjović, L. (2002). Statistika u psihologiji – priručnik, Beograd: Centar za primenjenu psihologiju.
- Todorović, D. (2008). Metodologija psiholoških istraživanja. Beograd: Centar za primenjenu psihologiju.
- Field, A. P. (2013). Discovering statistics using IBM SPSS Statistics: and sex and drugs and rock 'n' roll (fourth - edition). London: Sage publications.

22. Web sources:

http://www.statisticalassociates.com/booklist.htm
http://core.ecu.edu/psyc/wuenschk/StatsLessons.htm

23. Applicable starting from the academic year:

2015/2016

24. Adopted in the Faculty/Academy session:

16 March 2015