

SYLLABUS

1. Course title:

STATISTICS IN PEDAGOGY AND PSYCHOLOGY I

2. Code:

(max. 20 characters)

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course: Mandatory Elective**6. Prerequisites:**

(max. 110 characters)

7. Class restrictions:

(max. 150 characters)

8. Duration / semester:

1

1

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 to introduce students:

- to the basic theoretical knowledge and skills necessary for statistical analysis of data in psychology and pedagogy;
- to the principles on which statistical judgment is based;
- to train students for application of elementary statistical procedures in statistical programs

16. Learning outcomes:

At the end of the course the students are expected to be able:

- to understanding the basics of statistics
- to apply basic statistical procedures in research work
- to make adequate conclusions based on the application of statistical procedures
- to follow the contents of the Statistics in Pedagogy and Psychology II and Psychometrics
- to adequately use software for statistical analysis

17. Course content:

- Basic concepts in statistics: variables, measurement scales, descriptive and inferential statistics
- Basic concepts of probability (a priori, axiomatic and statistical understanding of probability, additive and multiplicative rule in calculating probability; Conditional probability and statistical independence of events)
- Measures of central tendency (mean, mode, median, geometric and harmonic mean)
- Measures of variability (standard deviation, average deviation, quartile deviation)
- Basic models of distribution (Binomial and Poisson's distribution, Gauss-Laplace distribution, large number law, Chebiev's theorem, the central theorem)
- Deviations from the normal distribution model (kurtosis, skewness)
- Z-values and standard normal distribution.
- Determining the position of the results in the group: Percentiles, deciles, quartiles.
- Introduction to statistical conclusion (population, sample, sample types, parameter, statistic ...)
- Statistical parameter estimation (standard error, confidence intervals)
- Statistical hypothesis testing (zero hypothesis, α error and β error, effect size, robustness ...)
- Significance of differences between means (t-test for independent and dependent samples)
- Linear correlation (Pearson coefficient of correlation, partial, point-biserial)

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
- 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.how2stats.net/p/home.html>
http://www.unt.edu/rss/class/Jon/SPSS_SC/
<http://www.utexas.edu/courses/schwab/>
<http://vassarstats.net/textbook/>

23. Applicable starting from the academic year:

2015/2016

24. Adopted in the Faculty/Academy session:

16 March 2015