SYLLABUS

1. Course title:

Statistics in Psychology

2. Code:

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

(•) Mandatory   ( ) Elective

6. Prerequisites:

7. Class restrictions:

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/PSYCHOLOGY

12. Lecturer:

13. Lecturer's e-mail:

14. Web site:

www.unitz.ba

15. Course aims:

Understand more complex statistical concepts and their theoretical bases relevant to analyzing data obtained by psychological measurement. Skill acquisition in applying statistical procedures in data cleaning, wrangling, and preparation for their psychological interpretation, which primarily include inferential statistics procedures.

16. Learning outcomes:

Based on the program contents and set aims, students will be able to:
- perform adequate parametric and non-parametric procedures for testing differences between two groups,
- apply one-factor and two-factor analysis of variance (between-groups designs)
- apply analysis of variance for repeated measurements,
- apply analysis of covariance,
- understand, interpret and perform multiple regression,
- understand, interpret, and apply logistic regression

17. Course content:

- Linear correlation and simple regression analysis (relationship between correlation and regression, predictor and criterion variables, least-squares method, test of statistical significance of linear correlation, conditions for performing regression analysis),
- Testing the statistical significance of differences between two arithmetic means (t-test for dependent and independent samples),
- One-factor univariate analysis of variance (fixed and random effects model, null hypothesis significance testing),
- Two-factor univariate analysis of variance (analysis with two unique factors, the concept of factor interaction),
- Analysis of variance in repeated measurement designs, mixed designs,
- Analysis of covariance,
- Selected non-parametric procedures for analysis of differences,
- Multiple regression analysis (the concept of the composite variable and linear combination of variables, least-squares method, the problem of the contribution of predictor variables in explaining the criterion, semi partial and partial correlation, stability of the regression model, effect size),
- Binary logistic regression (binary criterion variable in the regression model, parameter estimation logistic regression model, maximum likelihood estimation, the conditions for performing binary logistic regression)

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:

a) Written Exam
b) Oral Exam

The written exam includes written knowledge assessment (objective and essay tests). Assessment will be realized through questions and answers regarding the course content. It will be done after the realization of planned lectures. Minimum number of points for passing the written exam is 24 (more than 60%).
Oral exam is meant for students with minimum number of points in the written exam (24).
Written exam
Written exam follows after the end of the course. Students will be presented a combination of essay and objective questions. Students who pass the written exam (achieve 24 to 40 points), gain conditions to take the oral exam. Students can earn a maximum of 40 points in the written exam. Minimum number of points required to pass the exam is 24.

Oral exam
Oral exam will include questions and students' answers regarding the course content and it will last for 15 to 30 minutes. Maximum number of points that can be earned in the oral exam is 10. Minimum number of points required to pass the exam is 6.

Pre-exam points amount to a total of 50 points (20 points for attendance and active in-class participation, 20 point s for the individual project and 10 points for the group project). By fulfilling all of their requirements, students can thus earn a maximum of 100 points.
The points count towards the final grade cumulatively if students score at least 60% points on the final exam (written and oral exam).
In order for students to earn the minimum passing grade, they need to score at least 54 cumulative points, of which at least 24 on the final exam. The final grade is formed as a sum of all points earned in-class and the final exam.

Exchange of any belongings between students is not allowed during the written exam. Students caught cheating or talking to others will be removed from the exam.

20. Assessment components:

Attendance in lectures and practical classes: 5 points
Active participation in lectures and practical classes: 15 points
Individual project: 10 points
Group project: 20 points
Final written exam: 40 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:

- Howell, D. (2020). Statistical Methods for Psychology (8th ed.). Wadsworth Publishing Co Inc.
- Tošković, O. (2020). Autostoperski vodič kroz statistiku: Uvod u primenjenu statistiku. Centar za primenjenu psihologiju.
- Cohen, B., (2013). Explaining Psychological Statistics. (4th Ed.). Wiley.
- Field, A. (2020). Discovering Statistics Using IBM SPSS Statistics (5th edition). SAGE Publications Ltd.
- Maxwell, S., Delaney, H. & Kelley, K. (2017). Designing experiments and analyzing data: A model comparison perspective. (3rd ed.). Routhledge

22. Web sources:

http://www.statisticalassociates.com/booklist.htm
http://core.ecu.edu/psyc/wuenschk/StatsLessons.htm
http://spsstools.net/en/
https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/
We70df3195ec8_4f95_9773_42e448fa9029/page/Downloads%20for%20IBM%C2%AE%20%20SPSS%C2%AE%20%20Modeler
http://www.gpower.hhu.de/en.html

23. Applicable starting from the academic year:

2022/2023

24. Adopted in the Faculty/Academy session: