

SYLLABUS

1. Course title:

Experimental methodology in psychological research

2. Code:

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

☒ Mandatory ☐ Elective

6. Prerequisites:

none

7. Class restrictions:

none

8. Duration / semester:

1

5

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:

dr. sc. Alija Selimović, associate professor

13. Lecturer's e-mail:

alija.selimovic@unitz.ba

14. Web site:

www.ff.untz.ba

15. Course aims:

Enabling students to understand:

- Methodological and logical structure of experiments, especially designs in manipulative "real" experiments,
- The meaning and procedures of randomization
- Data analysis in experimental psychology with a focus on the analysis of variance methods
- Models of ecological studies (experimental and observational)
- Basics requirements of experimental study reports
- Necessary ethical preconditions for conducting experimental studies

16. Learning outcomes:

Based on the program contents and set aims, students will be able to:

- Understand the logic of experimental research,
- Review the factors related to the validity of experimental research
- Selection of appropriate randomization methods for within- and between-subjects designs
- Selection of adequate experimental designs
- Selection of appropriate statistical procedures for data analysis
- Interpretation of experimental research results
- Writing an experimental report

17. Course content:

Experimentation and causality. Characteristics of a real experiment. Entities, effects, and causal relations. The logic of experimental research. Research entities. Research control. Techniques to control confounding variables, homogenization, Blocking. Averaging. Pairing. Replication. Randomization. SUTVA (Stable Unit Value Assumption). Experimental and quasi-experimental designs. Frequency designs: univariate, bivariate, multivariate plans. Factorial design: designs with independent and dependent groups. Designs with an experimental and a control group. Placebo effect. Sources and types of confounding. Bivariate and multivariate one-factorial designs. Factorial designs: two-factor and multifactor designs. 2x2 type designs, more complex designs, between- and within-subjects designs, mixed designs. Three-factor designs. Factorial multivariate designs. Quasi-experimental designs. Quasi-experimental designs using control groups and pre-testing. Drafts with unequal control groups. A natural experiment. Structure of experimental reports.

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 points 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:

- Maxwell, S., Delaney, H. & Kelley, K. (2017). Designing experiments and analyzing data: A model comparison perspective. (3rd ed.). Routhledge
- Alferes, V. R. (2012). Methods of Randomization in Experimental Design. SAGE Publications, Inc.
- Reichardt, C. S. (2019). Quasi-Experimentation: A Guide to Design and Analysis. Guilford Press.
- Milas, G. (2009). Istraživačke metode u psihologiji i drugim društvenim znanostima. Naklada Slap.
- Todorović, D. (2008). Metodologija psiholoških istraživanja. Centar za primenjenu psihologiju
- Shadish, W.R., Cook, T. D., & Campbell, D.T. (2002). Experimental and Quasi-Experimental Designs for Generalized Causal Inference. Wadsworth.
- Winer, B.J., Brown, D. R. & Michels, K. M. (1991). Statistical principles in experimental design (3rd ed.). McGraw-Hill.
- American Psychological Association. (2019). Publication Manual of the American Psychological Association (7th Edition). American Psychological Association.

22. Web sources:

23. Applicable starting from the academic year:

2022/2023

24. Adopted in the Faculty/Academy session:
