COURSE DESCRIPTION

General research methods and scientific paper elaboration methods. Ethics and academic integrity

Academic year 2026-2027

1. Programme-related data

1.1. Higher Education Institution	Babeș-Bolyai University
1.2. Faculty	Faculty of Psychology and Educational Sciences
1.3. Doctoral School	"Evidence-based psychological assessment and interventions" doctoral school
1.4. Field of study	Psychology
1.5. Level of study	Doctoral

2. Course-related data

2.1. Course title	General research methods and scientific paper elaboration methods. Ethics and academic integrity		Course code	1
2.2. Course coordinator	Assistant Professor Liviu-Andrei Fodor, Ph.D.			
2.3. Seminar coordinator	Assistant Professor Liviu-Andrei Fodor, Ph.D.			
2.4. Year of study	1	2.5. Semester	1	2.6. Type of assessment	Exam
2.7. Course status	Compulsory	2.8. Course type			Core subject

3. Total estimated time (hours per semester of teaching activities)

3.1. Number of hours per week	3	of which: 3.2. course	2	3.3. seminar/ laboratory/ project	1
3.4. Total of hours in the curriculum	250	of which: 3.5. course	28	3.6. seminar/ laboratory	14
Time allocation for individual study (IS) and self-taught activities (ST)					**hours**
Learning from textbooks, course materials, bibliography, and notes (IS)					60
Additional research in the library, on subject-specific electronic platforms, and on-site					50
Preparing seminars/ laboratories/ projects, assignments, reports, portfolios, and essays					50
Tutoring (professional guidance)					26
Examinations					2
Other activities					20
3.7. Total hours of individual study (IS) and self-taught activities (ST)				**208**	
3.8. Total hours per semester				**42**	
3.9. Number of credits				**10**	

4. Prerequisites (where applicable)

4.1. curriculum-related	That is not the case
4.2 skills-related	Adapting research methods in the field of psychology to the clinical context; Developing a study design according to clinical standards; Possessing advanced skills in statistical data analysis in psychology; Critically analysing research methods in psychology; Writing a scientific manuscript according to standards in the field of psychology.

5. Specific conditions (where applicable)

5.1. course-related	Conference room with a minimum of 15 seats, computer and video projector, blackboard/flipchart, writing instruments
5.2. seminar/laboratory-related	Conference room with a minimum of 15 seats, 15 computers and video projector, whiteboard/flipchart, writing instruments

6. Subject-specific learning outcomes

Knowledge
1. Knows and understands various psychological research methods used in the clinical field
2. Knows and understands various methods of data analysis applicable in the field of clinical psychology and psychotherapy
3. Understands the advantages and limitations of different research methods, and the conclusions that can be drawn from them
4. Knows and understands modern ways of handling missing data through multiple imputation
5. Explains and interprets the methodological concepts of efficacy, effectiveness, mediator, moderator, mechanism of change
6. Explains and interprets the methodological and statistical concepts of meta-analysis, publication bias, risk of bias (study quality), subgroup analysis/meta-regression, and sensitivity analysis
7. Explains and interprets the statistical concepts of multivariate effect, interaction effect, estimated marginal mean, covariate
8. Explains and interprets fixed-effect and random-effect statistical concepts in longitudinal studies
9. Explains and interprets the statistical concepts of structural equations modelling, exploratory/confirmatory factor analysis
10. Explains and interprets the methodological and statistical concepts with regard to network approaches to mental disorders
Skills
1. Uses a wide range of research methods specific to the field of clinical psychology
2. Uses a wide range of statistical analysis methods to highlight differences in the effectiveness of interventions and the theories that support them
3. Critically evaluates the results of clinical studies
4. Communicates empirical results according to field standards
5. Uses multiple analysis methodologies and strategies to test research objectives and hypotheses
6. Applies the principles of fundamental and applied psychological research in the field of clinical psychology and psychotherapy
7. Critical thinking about the results of psychological research
8. Disseminates scientific results in the field of psychology that have an impact at the socio-cultural level
9. Demonstrates a critical attitude towards professional policies and practices in the field
10. Promotes the principles of professional ethics in conducting scientific research and capitalizing on its results
Responsibility and autonomy
1. Works autonomously in investigating and expanding knowledge
2. Takes responsibility for the validity of the conclusions
3. Takes responsibility for the quality and impact of solutions.
4. Makes autonomous decisions regarding the choice and adaptation of methods
5. Takes responsibility for the correctness of the implemented procedures
6. Takes responsibility for decisions related to the implementation of new solutions
7. Works autonomously to test and validate them
8. Takes responsibility for the accuracy of information
9. Works independently in selecting and presenting materials

10. Takes responsibility for the originality and quality of the work
11. Works independently in developing and reviewing academic materials
12. Ensures the accuracy of processed data
13. Works autonomously in selecting data processing methodologies
14. Takes responsibility for adhering to ethical principles
15. Works autonomously to prevent and manage ethical issues

7. Contents

7.1. Course	Teaching and learning methods	Remarks[1]
1. Evidence-based psychotherapy – methodological aspects for establishing the status of an intervention: the distinction between theory and intervention package	interactive lecture, guided discovery, demonstration, open-ended questions	
2. Mechanism of change – methodological criteria and data analysis strategies	interactive lecture, guided discovery, demonstration, open-ended questions	
3. Moderators of intervention effectiveness – statistical analysis strategies to highlight their presence	interactive lecture, guided discovery, demonstration, open-ended questions	
4. Complex statistical methods for imputing missing data	interactive lecture, guided discovery, demonstration, open-ended questions	
5. Advanced meta-analysis concepts – the impact of fixed-effect and random-effect models	interactive lecture, guided discovery, demonstration, open-ended questions	
6. Advanced meta-analysis concepts – Study search/selection methods and study inclusion criteria (PRISMA Flow Diagram on study inclusion in meta-analysis)	interactive lecture, guided discovery, demonstration, open-ended questions	
7. Publication bias in meta-analysis – statistical methods to highlight it and analyse its impact	interactive lecture, guided discovery, demonstration, open-ended questions	
8. Moderation analysis, meta-regression, and sensitivity analysis in meta-analysis	interactive lecture, guided discovery, demonstration, open-ended questions	
9. Quality criteria for controlled clinical trials and analysis of their impact on meta-analytic studies	interactive lecture, guided discovery, demonstration, open-ended questions	
10. Exploratory/confirmatory factor analysis	interactive lecture, guided discovery, demonstration, open-ended questions	
11. Multivariate methods for analysing data from controlled clinical trials	interactive lecture, guided discovery, demonstration, open-ended questions	
12. Estimating the effectiveness of an intervention using longitudinal mixed linear models: fixed and random effects in autocorrelated data	interactive lecture, guided discovery, demonstration, open-ended questions	

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[1] For example, organisational aspects, recommendations for students, specific aspects relating to the course/seminar, such as inviting experts in the field, etc.

13. Network conceptualization of mental disorders	interactive lecture, guided discovery, demonstration, open-ended questions	
14. Structural equation modelling	interactive lecture, guided discovery, demonstration, open-ended questions	
Bibliography		

- Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S. L. (2018). Best Practices for Developing and Validating Scales for Health, Social, and Behavioral Research: A Primer. Frontiers in public health, 6, 149. https://doi.org/10.3389/fpubh.2018.00149
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- van Buuren, S. (2018). Flexible Imputation of Missing Data, Second Edition (2nd ed.). Chapman and Hall/CRC. https://doi.org/10.1201/9780429492259
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7.2. Seminar/ laboratory	Teaching and learning methods	Remarks
1. Applications for determining the effectiveness of an intervention and testing the theory and mechanisms of change	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory

2. Applications concerning mediation analysis with continuous multiple mediators	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
3. Mediation analysis with categorical variables	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
4. Applications concerning analysis with multiple moderators measured on continuous and categorical scales	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
5. Multivariate analysis with repeated measurements, covariates, and multiple interaction effects	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
6. Imputing missing data in a controlled clinical trial using multiple imputation scenarios	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
7. Extracting and calculating effect sizes in meta-analysis; impact analysis for different strategies of estimating effect sizes	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
8. Applications involving exploratory/confirmatory factor analysis	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
9. Applications concerning structural equation modelling	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
10. Applications of meta-regression analysis with multiple predictors	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
11. Analysis of the impact of study quality on meta-analysis results	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
12. Analysis of autocorrelated longitudinal data using mixed models	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
13. Applications concerning the network conceptualization of mental disorders, comparison of networks in terms of centrality indices	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory
14. Statistical power analysis: a priori, post hoc, and sensitivity.	guided discovery, open questions, demonstration, practical exercises, debate	Applications in the data analysis laboratory

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8. Evaluation

Type of activity	8.1 Evaluation criteria[2]	8.2 Evaluation methods[3]	8.3 Percentage in the final grade
8.4. Course	The manner of analysis, synthesis, and integration of theoretical information	Final assessment: - knowledge test	70%
8.5. Seminar/ laboratory	The manner of analysis, synthesis, and transfer of theoretical knowledge into practical applications	Final evaluation - project	30%
8.6 Minimum standard for passing			

- Seminar attendance – minimum 80%
- Simultaneous conditions for passing the exam:
  - Minimum 50% of the final written exam score for course topics
  - Minimum 50% of the seminar assessment score

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[2] The evaluation criteria must directly reflect the learning outcomes targeted at the level of the degree programme respectively at the level of the subject. More specifically, the learning outcomes set out in the expected learning outcomes are assessed.

[3] Both final evaluation methods and ongoing evaluation strategies should be established.

9. SDG labels (Sustainable Development Goals)[4]

		Sustainable Development Generic Label
(SDG wheel)	○	

1 FĂRĂ SĂRĂCIE	2 FOAMETE „ZERO"	3 SĂNĂTATE ȘI BUNĂSTARE	4 EDUCAȚIE DE CALITATE	5 EGALITATE DE GEN	6 APĂ CURATĂ ȘI SANITAȚIE	7 ENERGIE CURATĂ ȘI LA PREȚURI ACCESIBILE	8 MUNCĂ DECENTĂ ȘI CREȘTERE ECONOMICĂ	9 INDUSTRIE, INOVAȚIE ȘI INFRASTRUCTURĂ
○	○	○	●	○	○	○	○	○

10 INEGALITĂȚI REDUSE	11 ORAȘE ȘI COMUNITĂȚI DURABILE	12 CONSUM ȘI PRODUCȚIE RESPONSABILE	13 ACȚIUNE CLIMATICĂ	14 VIAȚA ACVATICĂ	15 VIAȚA TERESTRĂ	16 PACE, JUSTIȚIE ȘI INSTITUȚII EFICIENTE	17 PARTENERIATE PENTRU REALIZAREA OBIECTIVELOR	No label applies
○	○	○	○	○	○	○	○	○

Date of entry:
16.02.2026

Signature of course coordinator

Signature of seminar coordinator

Date of approval in the department:
…

Signature of the head of department

………………….

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[4] Select a single label which, according to the *Implementation of SDG labels in the academic process*, best matches the subject. If the subject addresses sustainable development in a generic manner (i.e. by presenting/introducing the general framework of sustainable development, etc.), then the Sustainable Development generic label may be applied. If none of the labels describe the subject, select the last option: *"No label applies."*