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stamp of the Doctoral School

DESCRIPTION OF TRAINING PROGRAMME
FOT THE DOCTORAL SCHOOL AT THE KAZIMIERZ WIELKI UNIVERSITY

INFORMATION ON COURSE	
Course	**Researcher's workshop I**
Type of classes	Specialist classes
Academic year	**2020/2021**
Field of science	social sciences
Discipline of science	**psychology**
Class instructor	**dr hab. Barbara Ciżkowicz, prof. uczelni**
Number of hours	**30**
Forme of classes	**lab**
Pass rules	**credit with a grade**
Language of lecture	**english**
Framework learning outcomes (8 PRK)	• knows and understands to such an extent that is possible to revise existing paradigms – world heritage, including theoretical foundations, general issues and selected specific issues – specific to a scientific or artistic discipline • knows and understands the main trends in the development of the scientific or artistic disciplines covered in the curricula • knows and understands research methodology • is able to critically analyse and evaluate the results of scientific research, expertise and other creative work and their contribution to knowledge development • is able to use knowledge from different fields of science or art to creatively identify, formulate and innovatively solve complex problems or perform research tasks, in particular: o define the purpose and subject of scientific research, formulate a research hypothesis, o develop research methods, techniques and tools, and use them creatively, o draw conclusions on the basis of scientific research • is ready for critical evaluation of the achievements of a given scientific or artistic discipline
DETAILED DESCRIPTION OF CLASSES	
Particular learning outcomes	W1: knows the assumptions and requirements for empirical data subjected to multivariate analyzes (measurement level, distribution assumption, comparability of parameters); W2: knows the rules of creating SEPATH path diagrams; W3: knows advanced strategies and research methods used in psychology; U1: interprets the results of the analysis of multivariate ANOVA / MANOVA; U2: applies cluster analysis and factor analysis (EFA and CFA) for estimating the validity of the tests; U3: builds path diagrams and assess goodness of fit of measurement models; U4: designs and conducts quantitative scientific research, going from defining the aim, problems, hypotheses, selecting a method of collecting data and analyzing them, to formulating adequate conclusions based on them;

	K1: understands the consequences of incorrect use of statistical methods and excessive generalization of conclusions; K2: accepts the principles of ethical research.
Program content implemented during classes	
1. Analysis of the effects of categorical predictors, taking into account covariates (continuous explanatory variables), contrast analysis. 2. Nonlinear regression (probit and logit models). 3. Application of exploratory factor analysis (EFA) in estimating the theoretical validity of a test. 4. Multiple regression as an introduction to path analysis: model assumptions. 5. Verification of theoretical models using empirical data - intermediary (mediation) and interactive (moderation) variables. 6. Measurement models in estimating the theoretical validity of the test (confirmatory factor analysis; CFA). 7. Testing and assessment of quality of structural models (structural equation modeling; SEM).	
Didactic methods	project method, laboratory classes - data analysis using the Statistic's, SPSS and AMOS packages
Assessmment methods and criteria	activity during laboratory classes + research report + test to assess skills: • selection of appropriate data analysis methods for the problem; • to apply the Statistics package for data analysis and, in the case of CFA and SEM, the AMOS package; • interpreting the results. The student must pass each form of credit in a degree that confirms that each of the included learning outcomes has been achieved satisfactorily.
Passing rules	Credit with grade
Basic literature	Aron, A., Coups, E., Aron, E. (2013). Statistics for psychology. Pearson Education (6th ed.) Howell, D. (2010). *Statistical Methods for Psychology*. Wadsworth, (7th Ed.) Kline, R. (2011). Principles and Practice of Structural Equation Modeling. The Guilford Press, (3th Ed.) Bichi, A. (2016). Classical Test Theory: An Introduction to Linear Modeling Approach to Test and Item Analysis. *International Journal for Social Studies*, *2*(9), 27-33.
Supplementary literature	Field, A. (2018). *Discovering statistics using IBM SPSS statistics*. Mulaik, S. (2010). *Foundations of factor analysis*. Tabachnick, B., Fidell, L. (2007). *Using multivariate statistics*. Tavakol, M., Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2,* 53-55.

ATTACHMENT FOR DESCRIPTION OF TRAINING PROGRAMME

Course	**Researcher's workshop I**
Form of classes	~~stationary~~ / distance / ~~mixed model~~*
Methods and techniques distance learning	Microsoft Office 365/ Teams

Form and date of individual consultations *	online meeting (Teams); on Tuesday (8:00 – 9:30 am)
Form of passing of assess-ment / examination	1. ~~orally~~ / written 2. distance / ~~stationary~~ activity during laboratory classes + project (research report) + test