

Study program: Special education and rehabilitation sciences			
Type and level of studies: Doctoral academic studies			
Title of the subject: Research methods and statistics			
Lecturer: Predrag R. Teovanović; Tatjana S. Mentus			
Course status: Obligatory			
ECTS: 20			
Prerequisites: No prerequisites			
Aim This course is primarily aimed to equip students with skills and knowledge necessary to design and carry out complex empirical studies and to report on their results in accordance with strict standards of academic writing. Course is designed to provide deeper understanding of research principles and purposes, and various tools and techniques available to researchers in special education and rehabilitation, but also to foster students' ability to summarize and extend the research base on topics of personal interest and professional relevance.			
Outcomes After the completion of the course, students should be able to: (1) distinguish between various frameworks that shape studies in special education and rehabilitation; (2) articulate own research interests; (3) specify structured research questions and write research proposal; (4) understand concepts of research validity, data collection and analysis techniques; (5) search various bibliographic databases effectively; (6) critically review empirical research; (7) select adequate instrument and collect empirical data; (8) create and organize datasets; (9) perform statistical analysis of empirical data; (10) communicate research findings, implications and recommendations for future inquiry and practice through written products and oral presentations; (11) apply APA style to written work.			
Contents <i>Lectures</i> Sources of scientific information. Bibliographic databases. Structure of research article. Academic writing. Scientific method. Qualitative and quantitative paradigm. Experimental and correlational research. Nomothetic and idiographic approach. Core elements of quantitative research: sample, variables, and data. Moderation and mediation. Research design and research proposal. Creating and managing datasets. Descriptive statistics. Normal distribution. Central limit theorem. Inferential statistics. Parameter estimation. Parametric and non-parametric tests. Basic statistical tests (chi-square, t-test, ANOVA, correlations, and regression analysis). Multivariate statistical tests (principal component analysis, factor analysis, canonical correlational and canonical discriminant analysis). Data analysis techniques for single subject research. Effect size and power analysis. Meta-analysis. <i>Practical work</i> Review of research article. Writing research proposal. Construction of data collection instrument. Data collection. Statistical analysis. Writing research report.			
Literature: 1. Mertens, D., & McLaughlin, J. (2008). <i>Research and Evaluation Methods in Special Education</i> . Corwin Press, California. 2. Rumrill, P. D., Cook, B. G., & Wiley, A. L. (Eds.). (2011). <i>Research in Special Education: Design, Methods, and Applications</i> . Springfield, IL: Charles C Thomas Publisher. 3. Stoner, J. (2010). Qualitative Research in Education: Other Methods of Seeking Knowledge. <i>Current Issues and Trends in Special Education</i> , 20, 19 – 39. 4. Thurlow, M., Foster, C., & Rogers, C. (2010). Scientifically supported interventions. <i>Current Issues and Trends in Special Education</i> , 19, 199 – 212. 5. Field, A. (2013). <i>Discovering statistics using IBM SPSS statistics</i> . Sage. 6. VandenBos, G. R. (Ed). (2010). <i>Publication manual of the American Psychological Association (6th ed.)</i> . APA, Washington, DC.			
Number of active classes per week		Lectures: 2	Research work: 5
Teaching methods: Lectures, group discussions, individual assignments, project-based learning			
Evaluation of knowledge (maximum score 100)			
Pre obligations	Points	Final exam	Points
Research project	40	Written exam	20
Seminars	20	Oral exam	20