

Study program: Class Teacher Education			
Type and level of studies: Bachelor studies, first cycle degree program			
Course unit: Research activities in integrative teaching			
Teacher in charge: Jelena M. Mladenović, PhD, Assistant Professor			
Language of instruction: English			
Course status: Elective			
ECTS: 6			
Semester: Winter Semester (VII)			
Course unit objectives Mastering key concepts in the field of research activities in STEAM integrative teaching. Understanding essence, role and significance of research activities and integrative teaching as integral elements of the organized educational work in school, and their mutual connections and conditions. Acquisition of knowledge about planning methods, phases, organization and realization of research activities in integrative teaching through experiments and mini field research.			
Learning Outcomes of Course unit Students will be able to: - Independently state and explain key concepts about research activities in integrative teaching; - Independently state and explain the phases of research activities; - Understand the essence, role and importance of research activities and STEAM integrative teaching as integral elements of organized educational work in school, and their mutual connections and conditioning; - Apply knowledge about research activities in integrative teaching in everyday school and extracurricular situations through the design and implementation of experiments and mini field research; - Independently and in a group plan and organize research activities in the immediate environment with elementary school students; - Orally present the results of independent or group research work in front of a group of students.			
Course unit content <i>Theoretical classes:</i> Key concepts within research activities and STEAM integrative teaching. Possibilities of realization research activities in the context of integrative teaching in the first cycle of primary education and upbringing. Analysis of teaching contents suitable for the realization of research activities in STEAM integrative teaching. Stages of research activities (observing and setting problems from the real environment, gathering information using different sources, connecting knowledge from different scientific disciplines, research planning, formulation of hypotheses, testing of hypotheses, data analysis, finding solutions to the problem, formulation of conclusions based on the obtained results, application of knowledge in new situations) and ways of their realization. Teaching and auxiliary technical aids suitable for the realization of research activities in STEAM integrative teaching. <i>Practical classes:</i> Planning and setting of experiments, mini field research and other forms of research activities that can be applied within STEAM integrative teaching in the immediate environment and laboratory. Making different types of instructions for the realization of experiments and other research activities in the work with students. The use of different techniques and procedures for researching phenomena and processes that are studied in the first cycle of primary education and upbringing. Making multimedia and poster presentations of the results of conducted research activities in STEAM integrative teaching. Planning, preparation and realization of school science festivals and science days.			
Literature Adam, L. et al. (2004). Teaching science at school. Translated by Stevan Jokić. Belgrade: Institute for Textbooks and Teaching resources. Viotijevic, N. (2006). Integrative teaching of nature and society. Belgrade: Školska knjiga. Grains of Science 1-4, translated from French by S. Jokić, ZUNS, 1998-2005. Karen, W. (2009). Design and implementation of a scientific problem in primary school using inquisitorial methods. Belgrade: Vinca Institute. Obadović, D., Bošnjak, M. (2010). Simple physical experiments in the classroom. Sombor: University of Novi Sadu, Faculty of Pedagogy in Sombor. Šarpak, Ž. (2001). Hand in test, science in elementary school. Belgrade: Society of Physicists of Serbia.			
Number of active teaching hours			Other classes
Lectures: 30	Practice: 15	Other forms of classes: mentoring system Independent work: project work, presentations	
Teaching methods Teaching is realized in the form of lectures through: interactive work (individual and in small groups), integrative approach to teaching content, discussion, workshops, problem solving and implementation of research activities – inquisitors (IBSE)			

method, analysis of PISA tests and student results, using texts, student presentations, analysis of the results of student independent work, and application of modern technology.

Examination methods (maximum 100 points)

Exam prerequisites	No. of points	Final exam	No. of points
Student's activity during lectures	10	written examination	/
Practical classes/tests	30	oral examination	40
Seminars	20	

Grading system

Grade	Number of points	Description
10	91-100	Excellent
9	81-90	Exceptionally good
8	71-80	Very good
7	61-70	Good
6	51-60	Passing
5	≤50	Failing