**PhD in Teaching Methodology in Primary Education – Mathematics/Science/Physical Education/Information Science**

The aim of the doctoral study programme of Teaching Methodology in Primary Education (of mathematics, science, physical education, information science) is to educate professionals who, upon completion of the study programme, will be qualified for the following:

* research work in the field of teaching methodology in primary education, particularly in the field of teaching methodology in primary education of mathematics, natural sciences, information or physical education;
* working at university in educating future professionals in the field of teaching methodology in primary education;
* working in school inspection or state institutions concerned with the quality and improvement of education, especially of primary school education (class teaching);
* non-governmental sector for the improvement and innovation of education in the Republic of Serbia and its adaptation to the systems of education around the world, especially in the EU;
* working in teams involved in improving and innovating education in the Republic of Serbia and the similar.

The doctoral studies programme is interdisciplinary in its character and enables students to:

* deepen the existing and acquire new knowledge in teaching methodology in primary education, particularly in teaching methodology of mathematics, natural sciences, information science and physical education,
* apply contemporary scientific research technology and scientific concepts according to international standards,
* prepare themselves for independent scientific research work,
* take part in lifelong education in the field of teaching methodology in primary education,
* to actively participate in postdoctoral studies and the similar.

***Results:***

A Doctor of Philosophy in teaching methodology in primary education (of mathematics, natural sciences, information science and physical education) is competent in managing research teams, in teaching in institutions of higher education, in managing the sector of school administration, in monitoring the process of primary education in natural science, mathematics, information science and physical education, in being part of expert teams at centres for vocational and professional development of those employed in education, in institutions for development and evaluation of education, institutions for publishing course books and teaching aids, centres for teaching methodology etc.

Upon completing the doctoral study programme in teaching methodology in primary education (of mathematics, natural sciences, information science and physical education), a student has acquired the following general competencies:

* organizing and applying developmental and scientific researches in teaching methodology in primary education of mathematics, natural sciences, information science and physical education;
* organizing and applying innovative research in the field of primary education;
* participating in international scientific projects;
* resolving individually practical and theoretical problems in the field of teaching methodology in primary education of mathematics, natural sciences, information science and physical education;
* applying new learning and teaching strategies and recent scientific knowledge in teaching methodology in primary education of mathematics, natural sciences, information science and physical education;
* developing critical attitude, creative and autonomous viewpoint;
* having responsibility towards the ethical principles of good scientific and teaching practice;
* presenting research results (at academic conferences, scientific journals and conference proceedings, monographs);
* developing teaching methodology in general, particularly in teaching methodology in primary education of mathematics, natural sciences, information science and physical education.

Upon completing the doctoral study programme in teaching methodology in primary education (of mathematics, natural sciences, information science and physical education), a student has acquired the following specific competencies:

* thorough understanding of teaching methodology in primary education of mathematics, natural sciences, information science and physical education;
* solving methodological problems in teaching methodology in primary education of mathematics, natural sciences, information science and physical education;
* connecting elementary areas of pedagogy, psychology, didactics and methodology and their application in teaching methodology in primary education of mathematics, natural sciences, information science and physical education;
* keeping up with the latest scientific achievements in teaching methodology in primary education of mathematics, natural sciences, information science and physical education;
* developing skills in employing methodological scientific knowledge in teaching methodology in primary education of mathematics, natural sciences, information science and physical education;
* proper use of information-communication technologies in mastering the knowledge in teaching methodology in primary education of mathematics, natural sciences, information science and physical education.

***Objectives:***

The objective of this study programme is to connect different scientific disciplines, fundamental and applied natural sciences, mathematics, information science, physical education, didactics, teaching metodology, pedagogical and psychological disciplines, and thus educate and train experts who will fully understand and implement interdisciplinary knowledge and skills that are necessary for modern class teaching of Mathematics, Science, Information Science or Physical Education. This objective is realized through a uniform programme that integrates disciplines mentioned above and necessary for the implementation of teaching process in modern environment and according to the contemporary education requirements.

The objectives of the doctoral studies of Teaching Methodology in Primary Education of Mathematics, Science, Information Science and Physical Education at the Faculty of Education in Sombor are as follows: acquiring and extending scientific knowledge and understanding of methodical rules and theories in primary education; interdisciplinary approach to the scientific problems in teaching; training students to independently design and realize complex scientific research aiming at the implementation of fundamental concepts of thorough education improving methodical theory and practice of class teaching.

Specific objectives of these studies involve the following: acquisition and extension of scientific knowledge and improvement of methodical rules and theories understanding in class teaching of science, mathematics, information science and physical education; interdisciplinary approach to scientific problems of these fields; training students for independent design and realization of complex scientific research aiming at the implementation of fundamental methodical concepts in the process of improvement of methodical theory and practice in primary education; independent scientific research, critical reassessment of valid didactic and methodical assumptions and scientific perception of new possibilities in class teaching of Mathematics, Science, Information Science, and Physical Education; acquisition of scientific abilities and academic skills; development of creative abilities, critical thinking and action reflection necessary for scientific research and didactic and methodical theory and practice improvement in class teaching.

***Admission requirements:***

In order to apply for some of the courses or groups of subjects there are certain preconditions to be fulfilled: for compulsory subjects in the first semester students have to pass differential exams if they have such obligations; in order to sit for the first optional course exams students have to have passed compulsory subjects; in order to sit for the second optional course exams, students have to pass the exam from the first optional course; in order to sit for the third optional course exams, students have to pass the exam from the second optional course; in order to sit for the fourth optional course exams, students have to pass the exam from the third optional course; in order to sit for the fifth optional course exams, students have to pass the exam from the fourth optional course.

• In order to write and submit a PhD thesis, a student’s PhD thesis project has to be approved. This project is realized through the fifth group of optional courses. A student also has to have one reviewed scientific paper published or approved for publishing (in the field of the doctoral thesis) in scientific journals from the official list of the Ministry of Education, Science and Technological Development of the Republic of Serbia, or in international journals from the SSCI list,

• A positive evaluation of the thesis is the condition for thesis defending. The thesis is evaluated by the committee determined by the decision of the Scholarly Council of the Faculty of Education in Sombor.

***Professional status:***

A student who completes a three-year study programme of the doctoral studies and defends his/her thesis, acquires the academic title of PhD in Teaching Methodology in Primary Eduction of Natural Science; or PhD in Teaching Methodology in Primary Education of Mathematics; or PhD in Teaching Methodology in Primary Education of Information Science; or PhD in Teaching Methodology in Primary Education of Physical Education (480 ECTS in total).

**Courses**

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| 1. General Methodology of Sciences (first year) |
| 2. Theoretical-didactical problems of classroom teaching didactic(first year) |
| 3. Subjects of elective block 1 (first year) |
| 4. Subjects of elective block 2 (first year) |
| 5. Subjects of elective block3 (second year) |
| 6. Subjects of elective block4 (second year) |
| 7. Subjects of elective block5 (second year) |
| 8. Work on a doctoral thesis (third year) |
| 9. Preparation of scientific research for publication (Journal on KOBSON list) (third year) |
| 10. Development of doctoral thesis (third year) |