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| <b>Study programmes:</b> MASTER STUDIES - Mathematics   |                    |                     |                    |
| <b>Course name:</b> School practice   |                    |                     |                    |
| <b>Lecturers:</b> Teachers on department of didactics of mathematics and department of astronomy  |                    |                     |                    |
| <b>Status:</b> Optional   |                    |                     |                    |
| <b>ECTS:</b> 8  |                    |                     |                    |
| <b>Attendance prerequisites:</b> Analysis 1; Geometry 1; Geometry 2; Introduction to logic; Linear algebra; Elementary theory of numbers; Programming 1.  |                    |                     |                    |
| <b>Course aims:</b> Acquiring the methodological and practical knowledge and skills necessary for quality teaching work and carrying out professional practice.   |                    |                     |                    |
| <b>Course outcome:</b> At the end of the course students will be expected to have <ul style="list-style-type: none"> <li>- completed their professional practice;</li> <li>- a deeper understanding of the basic concepts in mathematics, informatics, astronomy and astrophysics;</li> <li>- acquired the knowledge and skills necessary for quality presentation of mathematical, informatics, astronomical and astrophysical content.</li> </ul>   |                    |                     |                    |
| <b>Course content:</b> Within the course certain contents from the mathematical, informatical, astronomical and astrophysical curriculum in elementary and high schools are studied. At the theoretical lessons the selected topics in mathematics, informatics, astronomy and astrophysics are studied in details, with a special emphasize on didactical preparation and methods of exposure. The way of presenting these topics is focused on deeping the understanding of basic concepts in mathematics, informatics, astronomy and astrophysics. Thereby students become able to use educational programme packages that could be used in teaching (LaTeX, Matlab, GeoGebra, GCLC, ...). At the practical teaching lessons the students perform professional practice in mathematics, informatics, astronomy and astrophysics. Professional practice is done in two cycles of 30 hours. Students perform one cycle of professional practice in elementary schools and perform the second cycle in high schools. Within each cycle of professional practice the students attend classes held by the teachers employed at the choosen schools. Also, students get acquainted with administrative part of work at schools. They are required to teach at least two lessons in the schools that are chosen for them. In order for a student to be sent to a professional practice it is necessary to pass a test of elementary knowledge in mathematics, as a pre-examination requirement. |                    |                     |                    |
| <b>Literature:</b>  |                    |                     |                    |
| <ol style="list-style-type: none"> <li>1. Polya, G., <i>How to solve it (A new aspect of mathematical method)</i> , Princeton University Press, 1945.</li> <li>2. Alan Sultan, Alice F. Artzt, <i>The Mathematics That Every Secondary School Math Teacher Needs To Know</i>, Routledge, Taylor &amp; Francis, 2011.</li> <li>3. Textbook and workbook in mathematics for elementary and high schools.</li> <li>4. Selected papers from educational journals in mathematics (<i>Nastava matematike, The Teaching of Mathematics, ...</i>)</li> </ol>  |                    |                     |                    |
| <b>Number of hours:</b> 6   | <b>Lectures:</b> 0 | <b>Tutorials:</b> 4 | <b>Practice:</b> 2 |
| <b>Research:</b> -  |                    |                     |                    |
| <b>Teaching and learning methods:</b> Tutorial/Practice   |                    |                     |                    |
| <b>Assessment (maximal 100 points)</b>  |                    |                     |                    |
| <b>Course assignments</b>   | <b>points</b>      | <b>Final exam</b>   | <b>points</b>      |
| Lectures  | -                  | Written exam        | -                  |
| Exercises / Tutorials   | 20                 | Oral exam           | -                  |
| Colloquia   | -                  | Written-oral exam   | 30                 |
| Professional practice   | 25+25              |                     |                    |