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| **Study program:** Master studies Chemistry | | | | |
| **Course title:** School Experiments 1 **(H243C)** | | | | |
| **Name of lecturer/lecturers: Nenad M. Krstić** | | | | |
| **Type of course: compulsory** | | | | |
| **Number of ECTS allocated: 4** | | | | |
| **Course objectives**  Understanding the importance of chemical experiments in the teaching of general and inorganic chemistry at the primary and secondary school level. Noticing connections between chemistry present in everyday life, work and environment. | | | | |
| **Course outcomes**  After passing the exam, the student is able to:  • looks at the place and role of experiments in the teaching of general and inorganic chemistry,  • notices and connects chemistry with everyday life,  • makes an adequate selection of experimental examples in the processing of teaching topics. | | | | |
| **SYLLABUS**  *Lectures*  Chemistry teaching experiment. Methodological division of experiments in chemistry. Types of experiments in the teaching of chemistry. Methodical and technical preparation of the trial. Demonstration trial, purpose, disadvantages. Laboratory experiments of students. The relationship between laboratory and demonstration experiments. Selected chapters of general chemistry. Types of inorganic compounds. Types of chemical reactions. Chemistry of elements of gases and other non-metals. Chemistry of metals. A final review of the role and place of the chemical teaching experiment in the teaching of chemistry in elementary school. Multidisciplinary approach in the teaching of inorganic chemistry.  *Laboratory work*  Basic calculations in chemistry. Solutions, energetics of chemical reactions. Review of work in the chemical laboratory. Matter, elements, compounds, mixtures. Inorganic compounds. Electrolytic dissociation. Types of inorganic reactions. Properties of nonmetals. Metals. Biologically significant chemical elements. Tests to determine materiality. Matter, elements, compounds, mixtures. Solubility, solutions. Types of experiments in the teaching process. Inorganic compounds and reactions. Electrolytic dissociation. Types of inorganic reactions: ionic, redox. Experiments illustrating the reactions and properties of nonmetals. Very interesting and simple experiments that are performed less often. Reactivity of metals. Voltage array. Electrochemistry. | | | | |
| **References**  1. Udžbenici Opšte i neorganske hemije za različite nivoe školovanja (Osnovna, Srednja, Univerzitet).  2. I. Perina, Kemijski pokusi u optičkoj projekciji. Školska knjiga, Zagreb, 2004.  3. J. Korolija, Lj. Mandić, D. Danilović, Priručnik za nastavnike za 7 razred osnovne škole. Zavod za udžbenike, Beograd, 2009. | | | | |
| **Active teaching classes** | **Lectures 30** | | **Laboratory work 30** | |
| **Teaching mode:** Interactive lectures, theoretical exercises, independent laboratory exercises, homework, demonstration experiment. | | | | |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** | | | | |
| **Pre exam duties** | **Points** | **Final exam** | | **Points** |
| Activity during lectures | 5 | Written examination | |  |
| Practical teaching | 30 | Oral examination | | 20 |
| Teaching colloquia | 35 | Practical examination | | 10 |