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| **Study program:** Master studies Chemistry |
| **Course title:** Chemistry teaching methodology 2**(H238C)** |
| **Name of lecturer/lecturers: Sofija M. Rančić** |
| **Type of course: complusory** |
| **Number of ECTS allocated: 4** |
| **Course objectives**The goal of the Chemistry Teaching Methodology 2 course is the initial training of students-future professors of chemistry for inclusion in the teaching process within the Chemistry course, understanding the objectives of learning organic chemistry and biochemistry in elementary school, high school and in various secondary vocational schools, understanding and applying the selection criteria content and methods in organic chemistry and biochemistry programs, understanding the way content is organized and learning within organic chemistry and biochemistry, understanding the concept of chemical literacy within organic chemistry, understanding the nature of problems that arise when learning the content of organic chemistry and biochemistry, as well as working with gifted to the students. |
| **Course outcomes**After successfully completing the course, students are able to:- define and distinguish the learning objectives of organic chemistry and biochemistry in elementary school, high school and in various vocational secondary schools-choose an adequate method of teaching and learning the content of organic chemistry and biochemistry in primary school, high school and in various vocational secondary schools- define the concepts of chemical literacy within organic chemistry and biochemistry-identify problems and misconceptions that arise when learning the content of organic chemistry and biochemistry at school and propose ways to solve them- design a program for working with gifted students as part of additional chemistry classes- successfully identify gifted students and propose appropriate methods in working with them |
| **SYLLABUS***Lectures*Connections between general, inorganic and organic chemistry and biochemistry in order to form a complete system of concepts. Organic chemistry teaching/learning objectives, outcomes and educational standards in the field of organic chemistry in primary school. Objectives of teaching/learning organic chemistry, outcomes and educational standards in the field of organic chemistry and biochemistry in high school. Objectives of organic chemistry teaching/learning, outcomes and educational standards in the field of organic chemistry in different secondary vocational schools. Contents of organic chemistry and biochemistry in curricula for different levels of education. Contents of organic chemistry and biochemistry in curricula for different levels of education in the world (presentation and comparative analysis). Structure of teaching content in organic chemistry and biochemistry. Chemical literacy in the field of organic chemistry and biochemistry. Problems related to the formation of concepts of organic chemistry and ways to solve them. Creation of lesson scenarios for the contents of organic chemistry and biochemistry according to the curricula for primary school, high school and secondary vocational school. Presentations of students' homework. Students' activities in various tasks in chemistry classes. Overview of chemistry teaching and learning methods. Research and contextual approach in teaching and learning chemistry. Procedures for activating students in chemistry classes. The nature of giftedness and ways to identify gifted students. Overview of teaching and learning methods in working with gifted students. Guidelines in the creation of teaching material for work within additional classes. Drafting a proposal for a program of work with gifted students as part of additional teaching hours in elementary school, high school and secondary vocational schools. Preparation of lesson scenarios for selected teaching units of additional teaching hours in elementary school, gymnasium and vocational secondary schools. Preparation for the chemistry competition. |
| **References**1. Milan Sikirica: Metodika nastave hemije, Školska knjiga, Zagreb, 2003. 2. Sofija Rančić, Tatjana Anđelković, Metodika nastave hemije sa metodologijom, Niš, 2007. 3. Ivan Ivić, Ana Pešikan, Slobodanka Antić, Aktivno učenje 2, Institut za psihologiju, Beograd, 2001.4. Rozalija Horvat, Radivoj Nikolajević, Metodika nastave hemije, EDUKA, Novi Sad, 1995. 5. Slavica B. Maksić, Darovito dete u školi, Zavod za udžbenike, Beograd, 2007.6. Stipan Jukić, Nastava u kojoj učenik misli, Viša škola za obrazovanje vaspitača, Vršac, 2001.Pomoćna literatura:1. Udžbenici za osnovnu i srednju školu2. Kurikulumi iz različitih zemalja |
| **Active teaching classes** | **Lectures 45** | **Laboratory work0** |
| **Teaching mode** |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| **Pre exam duties** | **Points** | **Final exam**  | **Points** |
| Activity during lectures | 5 | Written examination | 10 |
| Practical teaching | 20 | Oral examination | 20 |
| Teaching colloquia | 30 |  |  |
| Seminar | 15 |  |  |