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| **Study program:** Master studies Chemistry |
| **Course title:** Contemporary Learning Methods in Chemistry **(H233C)** |
| **Name of lecturer/lecturers:** Tatjana D. Anđelković |
| **Type of course:** elective |
| **Number of ECTS allocated:** 7 |
| **Course objectives**Training for the application of information and communication technologies and the design of electronic teaching materials in modern chemistry teaching. |
| **Course outcomes**After completing the course, the student is able to: demonstrate knowledge of various forms of electronic education in the field of chemical education; demonstrates methodological and practical competence for the design and application of electronic educational materials in the teaching of chemistry in the form of electronic courses; independently records and edits educational films for teaching natural sciences; critically reviews aspects of traditional chemistry teaching and applies modern forms of teaching in a real school environment; uses software for simulating chemical processes in problem teaching and the scientific method of learning in chemistry. |
| **SYLLABUS***Lectures*Modern information and communication technologies in the teaching of chemistry. The concept of electronic education and electronic chemistry classrooms. Advantages and disadvantages of electronic education in the teaching of chemistry. Virtual classroom in the teaching of chemistry. Application of videoconferencing technology in chemical education. The term and history of distance education. Virtual chemistry experiment and virtual laboratories.*Laboratory work*Handling modern educational technology (computers, video equipment, interactive whiteboard). Software for two-dimensional and three-dimensional representation of chemical compounds (SymyxDraw, ChemSketch and 3D viewer). Methodical transformation of classic study material into E-material in chemistry. Design of teaching materials for a chemistry online course. Preparation of electronic teaching materials for learning chemistry in regular classes. Using videoconferencing technology in education |
| **References**1. Adamov, J. (2016): Primena multimedije u nastavi (elektronski udžbenik) 2. Anderson, T., Elloumi, F. (2004), Theory and Practice of Online Learning, Athabasca University, Athabasca3. Rosić, V. (2000). Nastavnik i savremena obrazovna tehnologija, Filozofski fakultet, Rijeka |
| **Active teaching classes** | **Lectures 45** | **Laboratory work 15** |
| **Teaching mode:** lectures, practical exercises, assignments, consultations |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| **Pre exam duties** | **Points** | **Final exam**  | **Points** |
| Activity during lectures | 10 | Written examination | 50 |
| Practical teaching |  | Oral examination |  |
| Teaching colloquia | 40 |  |  |
| Seminar |  |  |  |