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| **Study program:** Master studies Chemistry, module Chemistry teacher | | | | |
| **Course title:** School Experiments 2**, (H240C)** | | | | |
| **Name of lecturer/lecturers: Danijela A. Kostić** | | | | |
| **Type of course: compulsory** | | | | |
| **Number of ECTS allocated: 4** | | | | |
| **Course objectives**  To acquaint students with the principles of planning and conducting school experiments in organic chemistry. Students will study and perform a large number of experiments characteristic of different classes of organic and biochemical compounds. | | | | |
| **Course outcomes**  The student should be able to independently design and perform school experiments in the field of organic chemistry and biochemistry. | | | | |
| **SYLLABUS**  *Lectures*  Chemicals, distribution, storage and precautions in working with organic substances. Laboratory equipment. Recrystallization. Distillation. Chromatography  Demonstration of carbon, hydrogen, nitrogen and sulfur in organic substances.  Hydrocarbons: division, solubility, combustion, characteristic reactions of hydrocarbons.  Organic oxygen compounds  Alcohols - division, characteristic physical properties and chemical reactions  Aldehydes and ketones: characteristic physical properties and chemical reactions  Carbonic acids: characteristic physical properties and chemical reactions  Carbonic acid derivatives: characteristic physical properties and chemical reactions  Organic nitrogen compounds - division, characteristic physical properties and chemical reactions  Synthesis of: ethylacetate, aspirin and pinacon hydrate  Carbohydrates: division, characteristic physical properties and chemical reactions  Lipids - division, characteristic physical properties and chemical reactions  Proteins: division, characteristic physical properties and chemical reactions  Alkaloids - division, characteristic physical properties and chemical reactions  Environmental pollution with organic compounds and handling of organic waste  Presentation of seminar papers  *Laboratory work*  Practical classes follow theoretical lectures and are designed with the aim of students mastering the complete process of planning and independently conducting experiments that are simple, safe, cheap and can be carried out in school conditions. | | | | |
| **References**  1. R. Halaši, Metodika nastave hemije i demonstracioni ogledi, Naučna knjiga, Beograd, 1976  2. N. Raos, Nove slike iz kemije, Školska knjiga, Zagreb, 2004  3. Udžbenici hemije i praktikumi za hemiju za VIII razred osnovne škole i III i IV razred srednje škole | | | | |
| **Active teaching classes** | **Lectures 30** | | **Laboratory work 30** | |
| **Teaching mode: Theoretical teaching and PPt presentations** | | | | |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** | | | | |
| **Pre exam duties** | **Points** | **Final exam** | | **Points** |
| Activity during lectures | 10 | Written examination | |  |
| Practical teaching | 20 | Oral examination | |  |
| Teaching colloquia | 30 |  | | 40 |