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| **Study program** Master Studies Chemistry |
| **Course title** Selected Chapters of Organic Chemistry (H201C) |
| **Name of lecturer/lecturers** Аleksandra S. Đorđević |
| **Type of course** Obligatory |
| **Number of ECTS allocated** 5 |
| **Course objectives**The objective of the course is to acquire knowledge about the structure, properties, production and reactions of organic compounds of sulfur, phosphorus and silicon, heterocyclic organic compounds and polymers. |
| **Course outcomes**Having finished this course successfully, a student will be able to:- understand the relationship between the structure of organic compounds of sulfur, phosphorus, silicon and heterocyclic compounds and their reactivity,- understand the relationship between the structure of polymers and their properties,- propose the synthesis of the mentioned groups of compounds in the laboratory conditions. |
| **SYLLABUS***Lectures*Concept, definition, nomenclature, structure, mechanism and reactions of polymers. Organic compoundsphosphorus: phosphorous ylides, phosphorous nucleophiles), comparison of properties of Si and C and their compounds, nucleophilic substitution on silicon, silyl ethers as protecting groups; comparison of oxygen andsulfur, sulfur-stabilized anions, allyl sulfides, sulfonium salts, sulfur ylides, sulfur-stabilized cations, thiocarbonyl compounds, sulfoxides, thioacetals, allyl sulfides, epoxides, and [2,3]-sigmatropic rearrangements of sulfur compounds. Nomenclature of heterocyclic compounds. Structure, reactions, synthesis and reactions of three-membered, four-membered, five-membered, six-membered and larger heterocyclic compounds. Heterocyclic compounds with more than one heteroatom in the ring. Condensed heterocyclic compounds.*Laboratory work* Theoretical problem solving from the mentioned areas of teaching. |
| **References**1. S. H. Pine, J. B. Hendrickson, D. J. Cram, G. S. Hammond, Оrganska hеmija, translation I. Ranogajec, Third ed., Školska Knjiga, Zagreb, 1994.2. J. Clayden, N. Greeves, S. Warren, P. Wothers, Organic Chemistry (1st ed.). Oxford University Press, London, 2008.3. S. Pavlov, Uvod u hemiju heterocikličnih jedinjenja, Naučna Knjiga, Belgrade, 1991.4. S. Jovanović, Ј.Đonlagić, Hemija makromolekula, Faculty of Technology, Belgrade, 2004. |
| **Active teaching classes** | **Lectures** 45 | **Laboratory work**  30 |
| **Teaching mode**Interactive lectures, theoretical exercises, consultations. |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| **Pre exam duties** | **Points** | **Final exam**  | **Points** |
| Activity during lectures | 5 | Written examination | 40 |
| Practical teaching | 10 | Oral examination |  |
| Teaching colloquia | 45 |  |  |
| Seminar | - |  |  |