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| **Study program** Chemistry |
| **Course title** Biohemistry (H132C) |
| **Name of lecturer/lecturers** Ivan R. Palić |
| **Type of course** Obligatory |
| **Number of ECTS allocated** 6 |
| **Course objectives**The Biochemistry subject aims to, through theoretical teaching and practical work within laboratory exercises,enable students to develop knowledge related to biological systems at the molecular-chemical level: what biomolecules are, how are they formed, what and how do they work? Also, this course aims to equip students for practical work in laboratories where it is possible to apply the knowledge acquired here. |
| **Course outcomes**Upon successful completion of this Biochemistry course, students can grasp and understand the importance of chemistry for living things organisms can concisely present biochemical information in written and oral form, as well as to become familiar with basic biochemical laboratory techniques. The course contributes to basic academic to the level of chemist education, who, as such, can participate in the performance of experimental methods in chemical and biochemical laboratories or in teaching chemistry in primary schools with a fundamental focus on "living" and "inanimate" in nature, or can continue further studies at master's academic studies. |
| **SYLLABUS***Lectures*Introduction; Biochemistry as a chemical and biological science; Proteins: basic terms and nomenclature, types and division proteins, levels of the spatial organization of proteins, examples of biochemically important proteins and enzymes; Biological membranes; Metabolism; Bioenergetics; Nucleic acids.*Laboratory work*Separation of amino acids by thin layer chromatography; Enzyme kinetics of potato catalase; Amylase from saliva; Carotenes from carrots; Pigments of green plants; Affinity chromatography; Denaturation and protein renaturation; Electrophoresis; Dialysis. |
| **References**1. D. Voet, J. Voet, Biochemistry, John Wiley and Sons, New York, 19952. L. Stryer, Biokemija, prevod, Školska knjiga, Zagreb, 19953. R. H. Garret, Ch. M. Grisham, Biochemistry, Saunders College, Fort Worth, 19994. S. Spasić, Z. Jelić-Ivanović, V. Spasojević-Kalimanska, Osnovi biohemije, Beograd, 20005. D. Marković, S. Cakić, G. Nikolić, Hromatografija, Tehnološki fakultet u Leskovcu, SIIC, Niš,19986. M.Popsavin, N.Vukojević, J.Hranisavljević, Praktikum iz hemije prirodnih proizvoda, Univerzitet u Novom Sadu, Prirodno-matematički fakultet, Novi Sad, 1998 |
| **Active teaching classes** | **Lectures** 45 | **Laboratory work** 30 |
| **Teaching mode** interactive lectures and experimental exercises, consultations |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| **Pre exam duties** | **Points** | **Final exam**  | **Points** |
| Activity during lectures | 5 | Written examination | / |
| Practical teaching | 10 | Oral examination | 50 |
| Teaching colloquia | 35 |  |  |