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| **Study program:** Doctoral academic studies **-** Chemistry |
| **Course title:** Conformational Analysis of Biomacromolecules (H313C) |
| **Name of lecturer/lecturers:** Ivan R. Palić |
| **Type of course:** elective |
| **Number of ECTS allocated:** 10 |
| **Course objectives**The aim of this course is to train students for independent work on acquiring theoretical knowledge in the field ofconformational analysis of polysaccharides, proteins and nucleic acids.  |
| **Course outcomes** Upon successful completion of this course, the student will be able to independently study and understand the conformations and significance of conformational forms of polysaccharides, proteins and nucleic acids for biological function in living organisms.  |
| **SYLLABUS***Lectures*3D structure of carbohydrates. Ways of bonding in complex carbohydrates. Relationship between structure and function; 3D structure of proteins. Modern techniques in structural and functional characterization of proteins: primary, secondary, tertiary and quaternary structures. Relationship between structure and function; 3D structure of nucleic acids: RNA and DNA. Ways for determining conformers. Angles of rotation in a nucleotide. DNA polymorphism and RNA conservatism. |
| **References**1. V. Niketić, Principi strukture i aktivnosti proteina, Beograd, 1995.2. D. Voet, J. G. Voet, Biochemistry, John Wiley and Sons, New York, 1995.3. L. Stryer, Biokemija, prevod, Školska knjiga, Zagreb, 1995.4. R. H. Garret, Ch. M. Grisham, Biochemistry, Saunders College, Fort Worth, 1999.5. S. Spasić, Z. Jelić-Ivanović, V. Spasojević-Kalimanska, Osnovi biohemije, Beograd, 2000. 6. K. Peter, C. Vollhardt, N. E. Schore, Organska hemija, prevod, drugo izdanje, Beograd, Hajdigraf, 1997. |
| **Active teaching classes** | **Lectures:** 105 | **Laboratory work:** / |
| **Teaching mode:** interactive lectures, seminars, dialogue, consultations |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| activity during lectures - 5 points; colloquiums - 60 points; written exam - 35 points |