|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Study program** Master Studies Chemistry | | | | |
| **Course title** Organic stereochemistry (H214C) | | | | |
| **Name of lecturer/lecturers** Gordana S. Stojanović | | | | |
| **Type of course** Obligatory | | | | |
| **Number of ECTS allocated** 5 | | | | |
| **Course objectives**  Acquiring knowledge about the three-dimensional structure of organic chemical species and its influence on physical-chemical properties and reactivity. | | | | |
| **Course outcomes**  Having finished this course successfully, a student will be able to:  -determine the influence of steric effects on the physical-chemical properties of organic compounds, their reactivity and the stereochemical course of the reaction. | | | | |
| **SYLLABUS**  *Lectures*  Configurational analysis: chirality, nomenclature of stereoisomers, prochirality. Conformational analysis: Internal coordinates, total molecular tension, stereo-electronic effects, acyclic saturated compounds, saturated cyclic compounds, intramolecular cyclization reactions, reactivity of axial and equatorial substituents of cyclohexane, stereochemistry of nucleophilic addition to the carbonyl group. Pericyclic reactions: Classification. Theories of pericyclic reactions. Electrocyclic reactions. Cycloaddition reactions. Sigmatropic rearrangement. Group transfer reactions.  *Laboratory work*  Theoretical problem solving from the mentioned areas of theoretical teaching. | | | | |
| **References**  1. G. Stojanović, Organska stereohemija, PMF-Niš, Niš, 2007.  2. E. Eliel, S. Wilen, L. Mander, Stereochemistry of organic compounds, John Wiley& Sons, New York 1993.  3. H.B Kagan, Organic Stereochemistry, University of Belgrade, Faculty of Chemistry, Belgrade, 1995.  4. J. Clayden, N. Greeves, S. Warren, P. Wothers, Organic Chemistry, Oxford University Press, Oxford, 2001.  5. M. Lj. Mihailović, Osnovi teorijske organske hemije i stereohemije, Građevinska Knjiga, Belgrade, 1990. | | | | |
| **Active teaching classes** | **Lectures**  45 | | **Laboratory work**  30 | |
| **Teaching mode**  Presentation of the lecture in PowerPoint, with the involvement of students in the discussion. Practical tasks in practice classes. | | | | |
| **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 | - |  | |  |