|  |
| --- |
|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Sciences and MathematicsDepartment of Chemistry |
| **GENERAL INFORMATION** |
| Study program  | **Chemistry** |
| Study Module (if applicable) | / |
| Course title | Organic chemistry 1 |
| Level of study | [x] Bachelor [ ]  Master’s [ ]  Doctoral |
| Type of course | [x]  Obligatory [ ]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | first |
| Number of ECTS allocated | 9 |
| Name of lecturer/lecturers | Gordana Stojanović |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Gaining knowledge about the structural representations, systematic nomenclature, structure, properties and reactivity of hydrocarbons (alkanes, alkenes, alkynes, cycloalkanes, aromatic) and heterocyclic aromatic compounds.  |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| * Alkanes: structural representations, structural isomerism and nomenclature, alkyl groups, molecular orbital description of bonding, hybridization, conformational analysis. Reaction of alkanes, free radical reactions, the stability of free radicals, hyperconjugation. Stereoisomers, optical isomerism, RS nomenclature.
* Alkenes-structure, bonding, nomenclature, E-Z notation, reactions, relative stabilities of carbcations. Stereospecificity.Stereoselectivity.
* Alkynes- structure and bonding, relative stabilities. Acidity. Tautomerism.
* Dienes and the allyl system, conjugation. Conjugate addition.
* Ring systems- strain, stereochemistry of cyclohexane, conformational analysis of cyclohexane and its substituted derivatives, bicyclic and polycyclic compounds.
* Aromatic hydrocarbons, the structure of benzene, aromaticity, nomenclature, physical properties, electrophilic aromatic substitution. Electrophilic substitution of substituted benzene, speed, regioselectivity. Nucleophilic aromatic substitution reaction.
* The heterocyclic aromatic compounds, the structure, and reactivity.
 |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [ ]  English (complete course) [ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)[ ] Serbian with English mentoring [ ] Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points** | **Final exam** | **points** |
| **Activity during lectures** | **6** | **Written examination** | **40** |
| **Practical teaching** | **10** | **Oral examination** | **/** |
| **Teaching colloquia** | **44** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |