|  |
| --- |
| **Study program:** Doctoral academic studies **-** Chemistry |
| **Course title:** Selected Chapters of Supramolecular Chemistry and Macromolecular Chemistry (H310C) |
| **Name of lecturer/lecturers:** Goran M. Petrović |
| **Type of course:** elective |
| **Number of ECTS allocated:** 10 |
| **Course objectives**Introducing students to the latest theoretical knowledge in the field of supramolecular chemistry and macromolecular chemistry and their application in science, technological processes and various aspects of modern life.  |
| **Course outcomes** Upon successful completion of this course, the student will be able to:- recognize the possibilities of applying materials from the field of supramolecular chemistry and macromolecule chemistry in a modern environment,- demonstrate acquired knowledge and understanding basic facts, concepts, principles and theories of supramolecular chemistry and macromolecule chemistry,- apply techniques of characterization and identification of macromolecules,- think critically to develop and application new materials,- apply the principles of good laboratory practice in solving practical problems,- apply knowledge in processes of degradation of polymer compounds to protect environment.  |
| **SYLLABUS***Lectures*Definition. Classification of supramolecular host-guest compound.The nature of supramolecular interactions. Molecular host, guest and complex design.Determination of the structure of supramolecules.Supramolecular chemistry in life.Electron/transfer processes.Liquid crystals and polymers.Selected organic macromolecules. Special new materials.Polymer carriers of reagents and biologically active compounds.Polymer degradation reactions. Mechanism of oxidative, photolytic and thermal degradation.  |
| **References**1. J. Steed, J. L. Atwood, Supramolecular Chemistry, J. Wiley, Chichester, UK, 2000.2. B. Stuart, Polymer Analysis, J. Wiley and Sons, UК, 2002.3. B. Miller, Advanced Organic Chemistry, Pearson, New Jersey, 2004. |
| **Active teaching classes** | **Lectures:** 105 | **Laboratory work:** / |
| **Teaching mode:** lectures, colloquiums, seminar, homework, consultations |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| homework - 10 points; colloquiums - 30 points; seminar 20 points; oral exam - 40 points |