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| **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 | | |