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|---|-----------------|-----------------------------|-------------------|--------|
| <b>Level:</b> master  |                 |                             |                   |        |
| <b>Course title:</b> Inorganic Chemistry II   |                 |                             |                   |        |
| <b>Status:</b> elective   |                 |                             |                   |        |
| <b>ECTS:</b> 8  |                 |                             |                   |        |
| <b>Requirements:</b> none   |                 |                             |                   |        |
| <b>Learning objectives</b><br>Acquiring the extended knowledge about the properties and application of the selected classes of binary and complex inorganic compounds in the modern environment.  |                 |                             |                   |        |
| <b>Learning outcomes</b><br><i>Upon successful completion of this course the student is able to:</i><br>1. demonstrate a profound knowledge of the stereochemistry, physical and chemical properties of selected classes of inorganic compounds;<br>2. demonstrate a profound knowledge of the stereochemistry, physical and chemical properties of selected classes of complex compounds;<br>3. state and independently propose procedures for obtaining inorganic and complex compounds based on knowledge about the chemical behaviour of selected inorganic and complex compounds;<br>4. identify common application of selected inorganic and complex compounds. |                 |                             |                   |        |
| <b>Syllabus</b><br><i>Theoretical instruction</i><br>Stereochemistry of inorganic compounds. Anion chemistry. Selected classes of binary inorganic compounds: hydrides, borides, carbides, silicides, nitrides, phosphides, etc. Stereochemical, acid/base, redox and catalytic properties and application of complex compounds. Element-organic compounds. The inorganic chains, rings, cages and clusters. Fullerenes and nanotubes.<br><br><i>Practical instruction</i><br>Non-template and template synthesis of selected compounds.  |                 |                             |                   |        |
| <b>Weekly teaching load</b>   |                 |                             |                   | Other: |
| Lectures:<br>3  | Exercises:<br>3 | Other forms of<br>teaching: | Student research: |        |