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| **Course title**  Inorganic chemistry – ERASMUS  Chemia nieorganiczna – ERASMUS | | | **ECTS code**  Inorganic chemistry |
| **Name of unit administrating study**  Faculty Chemistry | | | |
| **Studies**   |  |  |  |  | | --- | --- | --- | --- | | **Field of study** | **Type** | **Form** |  | | Chemistry | Bachelor | Full-time studies |  | | Chemistry | Master | Full-time studies |  | | Environmental sciences | Bachelor | Full-time studies |  | | | | |
| **Teaching staff**  dr hab. Dariusz Wyrzykowski; dr hab. Joanna Makowska, prof. UG | | | |
| **Forms of classes, the realization and number of hours** | | **ECTS credits 6**  classes 60 h  tutorial classes 20 h  student’s own work 70 h  TOTAL: 150 h - 6 ECTS | |
| 1. **Forms of classes, in accordance with the UG Rector’s regulations**   laboratory classes | |
| 1. **The realization of activities**   In-class | |
| 1. **Number of hours**   60 h - laboratory | |
| **The academic cycle**  summer | | | |
| **Type of course**  facultative | **Language of instruction**  English | | |
| **Teaching methods**  Laboratory experiments | **Form and method of assessment and basic criteria for evaluation or examination requirements** | | |
| **A. Final evaluation, in accordance with the UG study regulations**  course completion (with a grade) | | |
| **B. Assessment methods**  Writing test | | |
| **C. The basic criteria for evaluation** or exam requirements  Evaluation criteria in accordance with the UG Studies Regulations; | | |
| **Required courses and introductory requirements**  no requirements | | | |
| **Aims of education**  • presenting basic issues in inorganic chemistry to students  • familiarize students with fundamental properties of the elements and inorganic compounds as well as their industrial role  • familiarize students with the basis of chemical calculations in the field of inorganic chemistry | | | |
| **Course contents**  Periodicity and the chemistry of the elements, physicochemical properties of inorganic and coordination compounds. The following items are included: periodicity, chemical bonding, coordination compounds, types of chemical reactions, properties of chemical elements and their compounds. The groups of elements are presented in the following order: group 1, group 2, group 13, group14, group 15, group 16, group 17, group 18, and d-elements (groups 3-12; first transition row, second transition row, and third transition row).  Laboratory classes: investigation of physicochemical properties of the elements, inorganic and coordination compounds based on chemical experiments. | | | |
| **Bibliography of literature**  Chemistry of the Elements, N. N. Greenwood, A. Earnshaw, Elsevier Science & Technology Books, 2005  General chemistry, Wendell H. Slabaugh, Theran D. Parsons, New York: John Wiley and Sons, 1966 | | | |
| **Knowledge**  Students know how to correctly write names, formulas chemical compounds.  Students know properties and application of elements from blocks s, p, d, f, respectively and complex inorganic structures.  Students are able to define the basic rules of safety and hygiene during inorganic chemistry reactions. | | | |
| **Skills**  Students plan and select the right equipment and measuring apparatus, conduct observations and simple chemical measurements and chemical experiments in inorganic chemistry, analyze the results and make conclusions based on them.  Students explain similarities and differences in properties of elements, relations between structure of substances and their properties; notice causal links in chemical processes performed in different conditions, where typical chemical reactions occur; explain course of different phenomena from everyday life with the use of chemical knowledge in correlation with other sciences; interpret information, formulates conclusions and explain opinions.  Students have skills of drawing correct conclusions based on available data from different sources, interpret and analyze information connected with chemistry presented as text, tables, plots, schemes, figures | | | |
| **Social competence**  Students are aware of existing connections between the environment, industry and chemistry.  Students have the appropriate habits of work in the inorganic chemistry laboratory, in particular with toxic and caustic substances.  Students are acting in accordance with the principles of occupational health and safety. Students are able to identify their level of knowledge and skills and understand the necessity of life-long learning in organic chemistry and personal development. | | | |