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| 1. Course title: **General and Inoganic Chemistry III. laboratory** | | | | |
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| 2. Code: | | 3. Type (lecture, practice etc.): practice | | |
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| 4. Contact hours: 4 hoursper week | | 5. Number of credits (ECTS): 5 | | |
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| 6. Preliminary conditions (max. 3):  General and Inorganic Chemistry II.lekture, discussion and laboratory | | | | |
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| 7. Announced:fall semester, spring semester, both | | | | |
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| 8. Limit for participants: 11 | | | | |
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| 10. Responsible teacher (faculty, institute and department):  György Petőcz PhD (Faculty of Science, Institute of Chemistry, Department of Inorganic Chemistry | | | | |
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| 11. Teacher(s) and percentage: | | Dr. György Petőcz | | 100% |
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| 12. Language:English | | | | |
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| 13. Course objectives and/or learning outcomes:  Objectives: The course intends to complete and extend the knowledge of the students in the field of preparation of inorganic compounds.  Learning outcomes: Students will get acquainted with the preparation methods of inorganic compounds and gain experiences in synthetic inorganic chemistry. | | | | |
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| 14. Course outline   1. Safety education, (accident and fire hazards) equipments, list of individual glasswares and other tools. 2. Preparation of sodium iodate. Distinction of iodate, bromate and chlorate anions. 3. Preparation of calcium hydride. Ignition of hydrogen with platinum catalyst. 4. Preparation of sodium hydrogen orthoperiodate. Preparation of barium hydrogen orthoperiodate. 5. Preparation of orthoperiodic acid. Preparation of sodium periodate. 6. Preparation of ClO2 and its properties. Reactions of thiosulphate. Preparation of potassium peroxodisulphate. 7. Preparation of potassium[tetrathiocyanate-mercury(II)]. Distinction of sulphite and sulphate ions. 8. Preparation of minium. Formation of cobalt and nickel complexes. 9. Preparation of titanyl sulphate. Reaction of antimony with non-metallic elements. Formation of iron complexes. 10. Preparation of potassium[hexacyanoferrate(III)] . The formation and properties of mercury(I) and mercury(II) compounds. 11. Preparation of iron alum. Preparation of mercury(II) thiocyanate. Formation and properties of the zinc compounds. 12. Preparation of magnesium nitride. Preparation of sodium thiosulfate. Formation of platinum complexes. 13. Comparison of the stability of silver complexes. Preparation of Mohr's salt. | | | | |
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| 15. Mid-semester works  At the beginning of the laboratory practices students must write a minitest related to the current and the last laboratory work.  All the students must give a presentation on their own work.  All the lab practices must be accomplished and students must write laboratory reports about their own work and must hand it in after the current lab practice. | | | | |
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| 16. Course requirements and grading  During the semester all the work activity will be graded as follows:   * minitests at the beginning of the lab practices: 30%, * the quality an quantity of the synthesized materials: 25% * lab reports, results of the calculations: 25%, * the presentation and the work activity at the lab practices: 20%   Grades:  0–50% failed  51–65% acceptable  66–75% average  76–90% good  91–100% excellent | | | | |
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| 17. List of readings | | | | |
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| 18. Recommended texts, further readings | | | | |
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| **Date** | 27. April, 2017 | **Prepared by** |  | |
| Dr. György Petőcz  responsible teacher | |
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| **Endorsed by** | | |  | |
| Dr. László Kollár program supervisor | |