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| 1. Course title: Organic Chemistry 1 laboratory | | | | | |
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| 2. Code: | | 3. Type (lecture, practice etc.): laboratory 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):  Organic Chemistry 1 lecture and General and inorganic chemistry laboratory course I. absolved | | | | | |
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| 7. Announced:fall semester, spring semester, both | | | | | |
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| 8. Limit for participants: 16 students in a group | | | | | |
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| 10. Responsible teacher (faculty, institute and department):  Dr. Cecília Sár PhD (Faculty of Medicine, Institute of Organic and Medicinal Chemistry) | | | | | |
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| 11. Teacher(s) and percentage: | | Dr. Tamás Kálai | | 100 % | |
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| 12. Language:English | | | | | |
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| 13. Course objectives and/or learning outcomes:  The objective of laboratory practise is to introduce students to the main organic chemical experimental. They examine the specific reactions and characteristics of functional groups. | | | | | |
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| 14. Course outline  week 1: General instructions for work in the laboratory, safety precautions; Introduction to use of common laboratory apparatus. Characteristic reactions of alkanes, alkenes and alkynes.  week 2: Basic laboratory operations I.: Synthesis of acetanilide (heating, cooling, stirring, filtration with vacuum, crystallisation, determination of the melting point). Characteristic tube reactions of aromatic hydrocarbons.  week 3: Basic laboratory operations II.: Synthesis of tert-butyl-chloride (extraction, drying, filtration, distillation, determination of the boiling point); Separation of dies with column chromatography; Identification of 1st unknown compound.  week 4: Synthesis of n-butyl bromide; Characteristic tube reactions of alkyl halides.  week 5: 1st Written test; Synthesis of p-bromo-acetanilide.  week 6: Characteristic tube reactions of alcohols, phenols and ethers. Preparation of nitrobenzene.  week 7: Synthesis of m-dinitrobenzene; Identification of 2nd unknown compound; Characteristic reactions of amines.  week 8: Preparation of anthranilic acid; 2nd written test.  week 9: Isolation of piperine, synthesis of 4-nitro-acetanilide; Basic laboratory operations III.: infrared and ultraviolet spectroscopy, thin layer chromatography.  week 10: Preparation of Janovsky-complex and 3-nitroaniline; Identification of 3rd unknown compound.  week 11: Synthesis of 4-bromoaniline and 3-nitrobenzaldehyde.  week 12: 3rd written test; Synthesis of phenylhydroxylamine.  week 13: Evaluation. | | | | | |
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| 15. Mid-semester works  During the semester students have to accomplish the preparative works and two written tests. They have to document the experiments in their exercise book. | | | | | |
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| 16. Course requirements and grading  Grading is based on the results of written test and the yield and purity of compounds prepared. | | | | | |
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| 17. List of readings  Balázs Bognár, Tamás Kálai and Cecília Sár, Organic Chemistry Laboratory Guide for English speaking students majoring in chemistry, Department of Organic and Medicinal Chemistry, Medical Faculty, University of Pécs  2014 | | | | | |
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| 18. Recommended texts, further readings  Pavia, D.L.; Lampman, G.M.; Kriz, G.S.; Engel, R.G. Introduction to Organic Laboratory Techniques, a Microscale Approach, 4th ed, Thomson Brooks/Cole, Belmont, 2007.  Mayo, D. W.; Pike, R. M.; Trumper, P. K. Microscale Organic Laboratory, 3rd ed.,Wiley, New York, 1994.  Furniss, B. S.; Hannaford, A. J.; Smith, P. W. G.; Tatchell, A.R.L Textbook of Practical Organic Chemistry, 5th ed., Longman, Essex, 1989. | | | | | |
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| **Date** | 13 April, 2017 | **Prepared by** |  | | |
| Dr. Cecília Sár  responsible teacher | | |
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| **Endorsed by** | | |  | | |
| program supervisor | | |