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| 1. Course title: Organic Chemistry 1 | | | | | |
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| 2. Code: | | 3. Type (lecture, practice etc.): lecture | | | |
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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): - | | | | | |
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| 7. Announced:fall semester, spring semester, both | | | | | |
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| 8. Limit for participants: | | | | | |
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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. Cecília Sár | | 50 % | |
| Dr. Tamás Kálai | | 50 % | |
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| 12. Language:English | | | | | |
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| 13. Course objectives and/or learning outcomes:  This is a part of the ordinary freshman course for chemistry majors to teach the nomenclature, structure, reactions, synthesis and utilization of main classes of organic compounds. | | | | | |
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| 14. Course outline  week 1: Atomic orbitals, molecular orbitals, hybridization, strucrure of molecules, covalent bonds  week 2: Representative carbon compounds: functional groups; Organic reactions and their mechanism; Acids and bases  week 3: Stereochemistry: isomerism, conformation, configuration, chirality; Structure determination of organic compounds  week 4: Alkanes, their structure, conformation, sp3 hybridization, nomenclature, physical properties, chemical reactions.  week 5: Unsaturated hydrocarbons: their structure, sp2 and sp hybridization, nomenclature, physical properties, chemical reactions, synthesis.  week 6: Unsaturated hydrocarbons in industry and biology: polymerisation, terpenes, steroids, carotenoids).  week 7: Aromatic hydrocarbons: aromaticity, Hückel’s rule. Aromatic electrophilic substitution reactions.  week 8: Alkyl halides: the character of a Hlg-C bond, synthesis, chemical reactions, their role in industry.  week 9: Organometallic compounds: structure; synthesis; reactivity, SN and AE reactions, reactions of Mg, Li, Cu, Cd, Zn organic compounds, synthesis and application of Si-organic derivatives.  week 10: Alcohols, phenols, ethers and their derivatives. Structure, physical and chemical properties, reactions. Their role in biological processes.  week 11: Aliphatic and aromatic nitro compounds, azo and diazo compounds: structure, synthesis, physicals and chemical properties and importance.  week 12: Amines: structure, synthesis, physicals and chemical properties, basicity. Biologically active amines, alkaloids, drugs and hormones.  week 13: Sulphur containing compounds: structure, physical and chemical properties, reactions. Their role in biological processes. | | | | | |
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| 15. Mid-semester works  Attending lectures is highly recommended. | | | | | |
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| 16. Course requirements and grading  Written exam is based on lectures, accessible electronic sources and books. | | | | | |
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| 17. List of readings  McMurry, J., Simanek, E.: Fundamentals of Organic Chemistry, 6th ed., Thomson Higher Education, Belmont, 2007.  Parsons, A.F. Keynotes in Organic Chemistry, 2nd ed, Wiley, Chichester, 2014 | | | | | |
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| 18. Recommended texts, further readings  T. W. Graham Solomons: Organic Chemistry, 7th edition, Wiley and Sons, New York, 2000.  William H. Brown: Organic Chemistry, Saunders College Publishing, Fort Worth, 1995.  The slides of the lecture are available on Neptun. | | | | | |
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| **Date** | 13 April, 2017 | **Prepared by** |  | | |
| Dr. Cecília Sár  responsible teacher | | |
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| **Endorsed by** | | |  | | |
| program supervisor | | |