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| 1. Course title: Analytical chemistry II | | | | | |
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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):  Completion of Analytical chemistry II lecture, seminar, and laboratory | | | | | |
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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. Attila Felinger, Dr. Ferenc Kilár (Faculty of Sciences, Institute of Chemistry, Department of Analytical and Environmental Chemistry) | | | | | |
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| 11. Teacher(s) and percentage: | | Dr. Attila Felinger | | 30 % | |
| Dr. Ferenc Kilár | | 45% | |
| Dr. Ágnes Dörnyei | | 25% | |
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| 12. Language:English | | | | | |
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| 13. Course objectives and/or learning outcomes:  Objectives: The lecture intends to introduce students to the fundamentals of advanced instrumental analysis.  Learning outcomes: students completing the course will have *knowledge* on the advanced instrumental methods of quantitative and qualitative analysis. | | | | | |
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| 14. Course outline   1. Sample preparation. Introduction to separation techniques. 2. Gas chromatography 3. Liquid chromatography 4. Supercritical fluid chromatography 5. Gel electrophoresis 6. Capillary electrophoresis 7. Nuclear magnetic resonance spectroscopy 8. Mössbauer spectroscopy 9. Electron spin resonance spectroscopy 10. X-ray diffraction. X-ray absorption spectroscopy 11. Mass spectrometry I 12. Mass spectrometry II 13. Mass spectrometry III | | | | | |
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| 15. Mid-semester works  Individual homework during the semester. Two mid-term tests | | | | | |
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| 16. Course requirements and grading  Oral examination | | | | | |
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| 17. List of readings   1. D. C. Harris: Quantitative chemical analysis, 9th ed (Freeman & Co., 2016) | | | | | |
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| 18. Recommended texts, further readings   1. R. Kellner et al.: Analytical chemistry, 2nd ed (Wiley-VCH, 2004) | | | | | |
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| **Date** | April 28, 2017 | **Prepared by** |  | | |
| Dr. Attila Felinger, Dr. Ferenc Kilár  responsible teacher | | |
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| **Endorsed by** | | |  | | |
| Dr. László Kollár  program supervisor | | |