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| 1. Course title: Finite mathematics 1 | | | | | | |
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| 2. Code: | | | 3. Type (lecture, practice etc.): exercise | | | |
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| 4. Contact hours: 2 hoursper week | | | 5. Number of credits (ECTS): 2 | | | |
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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: 24 | | | | | | |
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| 10. Responsible teacher (faculty, institute and department):  Péter Csorba PhD (Faculty of Science, Institute of Mathematics and Informatics, Department of Mathematics) | | | | | | |
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| 11. Teacher(s) and percentage: | | | Dr. Péter CSORBA | | | 100 % |
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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 the basic theorems of combinatorics and graph theory.  Learning outcomes: Students completing the course will have basic *knowledge* on combinatorics and graph theory, and they will be *able* use this knowledge. | | | | | | |
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| 14. Course outline   1. Basic counting problems 2. Basic counting problems 3. Pigeon hole principle 4. Binomial coefficients 5. Fibonacci numbers 6. Principle of inclusion and exclusion 7. Midterm test 8. Graphs, degree sequence, isomorphism 9. Ramsey type theorems 10. Problems on the chessboard 11. Euler/Hamilton type problems 12. Planar graphs 13. Final test | | | | | | |
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| 15. Mid-semester works  Week 7:Midterm test  Week 13:Final test | | | | | | |
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| 16. Course requirements and grading  the two tests contribute 50-50% toward the final grade:   1. 40% – acceptable 2. 55% – average 3. 70% – good 4. 85% – exelent   Make up tests: at the end of the semester.  Failed tests must be repeated. | | | | | | |
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| 17. List of readings | | | | | | |
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| 18. Recommended texts, further readings   1. L. Lovász, J. Pelikán, K. Vesztergombi, Discrete Mathematics: Elementary and Beyond, Springer, 2003 2. Kenneth H. Rosen, Discrete Mathematics and Its Applications, 7th edition, McGraw-Hill, 2012 | | | | | | |
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| **Date** | 13 April, 2017 | **Prepared by** | |  | | |
| Dr. Péter CSORBA  responsible teacher | | |
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| **Endorsed by** | | | | |  | |
| Dr. László TÓTH program supervisor | |