**COURSE DESCRIPTIONS**

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| **Code of course:** BMI-LOTD17-102E, BMI-LOTD-102E.2, BMA-LOTD17-102, BMA-FILD-301.1, BBN-FIL18-301, BBN-FIL-301.1 |
| **Title of course:** Logic lecture |
| **Lecturer:** Márton Gömöri |
| **General aim of the course**: The course provides an introduction to first-order logic.**Content of the course**:* Syntacs of first-order languages
* Sets, relations, functions
* Semantics of first-order languages
* Central logical notions in first-order logic
* Deductive systems
* Soundness and completeness
* First-order theories
* Peano arithmetic
* Infinite sets and set theory
* Löwenheim-Skolem theorem
* Limits of first-order logic and the idea of second-order logic

**Grading criteria, specific requirements**:Oral exam.**Required reading**:P. D. Magnus and T. Button, forallx:Cambridge, 2017.J. Barwise and J. Etchemendy, *Language, Proof and Logic.* CSLI Publications, 2011.**Suggested further reading**:H. Halvorson, *How Logic Works: A User's Guide*. Princeton, NJ: Princeton University Press, 2020.I. Chiswell and W. Hodges, *Mathematical Logic*. Oxford University Press, 2007. |