

# Dependence Logic

Fall 2017

# Basic info

- Optional course of the Master's Programme in Mathematics and Statistics
- Prerequisites: Introduction to logic I&II recommended
- Lectures: Monday 12-14 (B321) and Thursday 10-12 (B222)
- Exercise class: Wednesday 14-16 (CK107)
- Assessment: final exam + exercises
- Teacher: Juha Kontinen (C333), [juha.kontinen@helsinki.fi](mailto:juha.kontinen@helsinki.fi)

# Basic info cont.

## Material:

1. Lecture notes will be made available during the course,
2. Jouko Väänänen: Dependence Logic. A New Approach to Independence Friendly Logic. Series: London Mathematical Society Student Texts (No. 70), 2007,
3. Juha Kontinen. Dependence Logic: A survey of some recent work. *Philosophy Compass*, 8(10): 950–963, 2013,

# Contents (tentative):

- Team semantics for first-order logic,
- Dependence, independence, inclusion, and exclusion dependencies,
- Classification of the expressive power of team based logics,
- Dependence/independence logic and existential second-order logic,
- Inclusion logic and fixed point logic,
- Propositional team semantics,
- Modal team semantics,
- Further topics such as axiomatizations and computational complexity.