

Mathematical Logic

Course syllabus and exam rules

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Figure : The teaching team

A rough syllabus

- Introduction and recap on set theory and basic math concepts [today \rightarrow 23/9/2014]
- Propositional Logic [25/9/2014 \rightarrow 16/10/2014]
 - Syntax and semantics.
 - Learning how to model using propositional Logic
 - Calculus using tableaux. The concept of proof.
 - Soundness and completeness of tableaux + other main properties
 - Decision procedures: DPPL algorithm and using minisat
- Midterm on propositional Logic (to be confirmed) [23/10/2014]
Note: No class on 21/10/2014 (to be confirmed)

A rough syllabus

- First order logic [28/10/2014 \rightarrow 15/11/2014]
 - Syntax and semantics.
 - Learning how to model using first order logic
 - Extending tableaux to First order logic
 - Extending the soundness and completeness proofs + other main properties
 - Basic Model theory: learn how to axiomatize specific structures
 - Decision procedures: resolution and unification, using a theorem prover (Prover 9)
- Modal Logic [27/11/2014 \rightarrow 11/12/2014]
 - Syntax and semantics of a basic modal logic
 - Other modal logics (K,B,T,4,5)
 - Tableaux in modal logic and exercises
- Midterm on first order and modal logic (to be confirmed) [16/12/2014]
Note: No class on 18/12/2014 (to be confirmed)

Tests

MPL: Mid term exam on Propositional Logic

MFM: Mid term exam on First Order Logic and Modal Logic

FE: Final Written Exam on Propositional Logic, First Order and Modal Logic

Grades

- if you pass MPL and MFML with grade X and Y you will pass the entire course with grade $\frac{X+Y}{2}$
- if you pass one of the two mid term exams with grade X , you have to do the final exam on the other part, and, if you pass it with grade Y , you will pass the entire course with grade $\frac{X+Y}{2}$
- If you don't pass any mid-term, you have to do the final exam, and you will pass the entire course with the grade of the final exam.
- In any case you can do the entire final exam (This must be declared explicitly in the exam sheet) In this case, if you will pass the course with the grade of the final exam (the grades of the mid term exams will not be considered)

- The course web site:
<http://disi.unitn.it/~ldkr/ml2014/index.html>
- The course mailing list:
math-logic-course-forum@list.fbk.eu
- How to register to the mailing list
 - Create an account at <https://list.fbk.eu/sympa>
 - Send email to sympa@list.fbk.eu with subject:
SUBSCRIBE math-logic-course-forum@list.fbk.eu: name surname