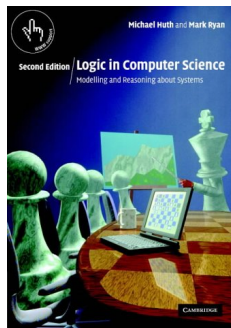


# Logic and Modelling

— Introduction —

Jörg Endrullis

VU University Amsterdam



**Logic in Computer Science**  
by Michael Huth and Mark Ryan

Cambridge University Press,  
Second Edition, 2004

# Course Structure

## Lecturer: Jörg Endrullis

- ▶ room: T437
- ▶ email: `j.endrullis@vu.nl`

## Teaching assistants:

- ▶ **Geoffrey Frankhuizen**
- ▶ **Rob Lewis**

## Course structure:

- ▶ 2 lectures per week
- ▶ 2 exercise classes per week
- ▶ in weeks 2 & 3 *bring your laptop to the exercise classes*

**Final exam**, see `rooster.vu.nl` (*not* `vurooster.nl`)!

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**Final exam**, see `rooster.vu.nl` (*not* `vurooster.nl`)!

- ▶ **Passing the practicum required for exam participation!**

# Final Exam and Final Grade

## Assignments (ProofWeb Practicum)

You need to solve

- ▶ 50% of the propositional logic tasks
- ▶ 50% of the predicate logic tasks without equality
- ▶ 1 of the predicate logic tasks with equality assigned

**Passing the practicum required for exam participation!**

## Final Grade

The final grade for the course is:

- ▶ **final exam grade**
- ▶ plus a maximum of 0.5 bonus points from the **practicum**

# Rough Course Content

The main subjects of this course are:

- ▶ propositional logic  
(syntax, semantic, natural deduction)
- ▶ (first-order) predicate logic  
(syntax, semantic, natural deduction)
- ▶ modal logic
  - ▶ frames and validity on frames
  - ▶ correspondence between formulas and frame properties
- ▶ important concepts are:
  - ▶ (in)completeness, correctness, consistency
  - ▶ (un)definability
  - ▶ (un)decidability