The Master of Logic Programme at the UvA

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What is Logic?

Over the centuries, “logic” has been associated with (at least):

- **Philosophy**: valid forms of reasoning and argument
- **Linguistics**: structures in natural language
- **Mathematics**: formal foundations of mathematics
- **Computer Science**: logic = the calculus of computer science

And it doesn’t stop there:


What is special about Amsterdam is that representatives of all these trends work and teach together in a single institute.
The Master of Logic at the ILLC

The Institute for Logic, Language and Computation (ILLC), a research institute that belongs to both the Faculty of Science and the Faculty of Humanities at the UvA, has offered the MoL since 1995.

Purpose:

- Basic training for doing research (∼75% continue with a PhD)

The I³ approach:

- Interdisciplinary vision of logic
- International: 25–30 nationalities/∼90 students (∼30% Dutch)
- Individual attention: personalised programme + academic mentor
Structure

• 120 ECs overall, over 2 years

• **Tracks:** Logic and Computation (L&C); Logic and Language (L&L); Logic and Mathematics (L&M); Logic and Philosophy (L&P)

• **Obligatory Part:** depends on track
  – *Logic, Language and Computation*
  – *Basic Logic* (if advised to take it)
  – 2–3 track-dependent courses
  – Research project: January/June and/or individual project

• **Free-Choice Part:** determined together with your academic mentor
  – our courses + anything else in NL (subject to mild rules)
  – might include more research projects

• **Thesis:** 30 ECs

• And: must attend at least 10 *seminar* sessions
Courses

Logic, Language & Computation; Basic Logic; Modal Logic; Set Theory; Model Theory; Proof Theory; Recursion Theory; Seminar on Mathematical Logic; Mathematical Structures in Logic; Category Theory & Topos Theory; Homotopy Type Theory; Capita Selecta Modal Logic, Algebra, Coalgebra; Basic Probability, Computing & Statistics; Information Theory; Computational Complexity; Kolmogorov Complexity; Quantum Computing; Cryptography; Combinatorics; Lambda Calculus; Concurrency Theory; Computability & Interaction; Protocol Validation; Functional Specification of Algorithms; Knowledge Representation; Knowledge Representation on the Web; Computational Social Choice; Game Theory; Philosophical Logic; Dynamic Epistemic Logic; Logic, Knowledge & Science; Logic & Metaphysics; Neurophilosophy; Kant, Logic & Cognition; Rationality, Cognition & Reasoning; Logical Methods in Cognitive Science; Neural & Cognitive Modelling; Cognitive Models of Language & Music; Music Cognition; Philosophy of Language; Wittgenstein; Meaning, Reference & Modality; Structures for Semantics; Logic & Conversation; Causality & Explanation; Computational Pragmatics; Natural Language Processing; Unsupervised Language Learning; Bayesian Interpretation; Philosophy of Science; Philosophy of Mathematics; Studies of Mathematical & Logical Practice; And more.
Some of our Recent Graduates

Paula Henk (MoL 2012)
Before: Bachelor Cognitive Science, Osnabrück, 2009
Thesis: *Supremum in the Lattice of Interpretability*
After: PhD Student in Mathematical Logic at the ILLC

Annemieke Reijngoud (MoL 2011)
Before: Bachelor Artificial Intelligence, Utrecht, 2009
Thesis: *Voter Response to Iterated Poll Information*
After: Consultant with McKinsey & Company

Fabio Zanasi (MoL 2012)
Before: Bachelor Philosophy, Siena, 2010
Thesis: *Monadic Second Order Logics on Infinite Trees*
After: PhD Student in Computer Science at ENS Lyon
Career Opportunities

• Academic research: around 75% of our graduates continue in academia and get a PhD degree.

Excellent placement record, with recent destinations including: Stanford, Berkeley, CUNY, NYU, UCSD, Oxford, Cambridge, LSE, St. Andrews, CWI, most Dutch universities, . . .

• Similar opportunities as Computer Science/IT graduates: e.g., software engineering

• Other: e.g., management and technology consulting
Selective MSc Programme

• Personalised Application Procedure

• Application:
  – Application form available at our website
    http://www.illc.uva.nl/MScLogic/application/
  – Transcript of courses and grades
  – Letters of Recommendation
  – Letter of Motivation

• Basic criteria:
  – Relevant Bachelor’s degree
  – Adequate background in logic (up to completeness of FOL)
  – Academic excellence (e.g., *cum laude* in the Dutch system)

• Deadline: 1 April 2015 (for European applicants)

• You don’t need a BSc/BA to apply, but you do need one to enroll.
• Central question: is logic what you *want* to do?
To find out more:

http://www.illc.uva.nl/MScLogic/