Program Semantics

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Timetable: 24 hours of class lectures; tentatively in three weeks in the Fall/Winter 2014/2015 (Torre Archimede, Department of Mathematics).

Course requirements: basics in programming languages, basic mathematical logic.

Examination and grading: students will be assigned a homework, to be later discussed with the teacher.

SSD: INF01

Aim: to provide the students an introduction to the main techniques used in formal semantics of programming languages. **Course contents:**

- Syntax vs semantics
- Semantics of expressions
- Big-step operational semantics of programs
- Structural operational semantics of programs
- Fixed point theory and denotational semantics of programs

References: H. Riis Nielson and F. Nielson. *Semantics with Applications: A Formal Introduction*. Wiley, 1992. Freely available at `http://www.daimi.au.dk/~bra8130/Wiley_book/wiley.html`