TDDB29 Compilers & Interpreters
TDDB44 Compiler Construction
2005

Organizational Issues

Christoph Kessler, IDA

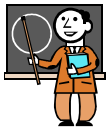
Staff 2005

- Peter Fritzson, Examiner, Course leader
- Christoph Kessler, Examiner, Course leader

- Jonas Wallgren, Course assistant TDDB29
- Peter Bunus, Course assistant TDDB44
- Mikhail Chalabine, Assistant TDDB44

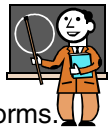
- Anne Moe, Course secretary
- Erik Larsson, Studierektor

Lecture Plan



- F1: Introduction — Christoph Kessler (CK)
- F1.5: [TDDB29 only] Short introduction to formal languages and automata (CK)
- F2: Lexical analysis; Symbol tables (CK)
- F3: Parsing; Top-Down Parsing (CK)
- F4: Top-Down Parsing cont., Bottom-Up Parsing (intro) (CK)
- F5: Bottom-Up Parsing (CK)

Lecture plan (cont.)



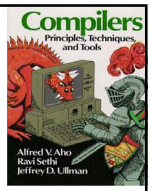
- F6: Semantic analysis and internal forms. Syntax-driven translation. (Peter Fritzson)
- F7: Memory Management; Run-time organization (PF)
- F8: Code optimisation (PF)
- F9: Code generation, general (PF)
- F10: [opt. f. TDDB29] Code generation for RISC and superscalar processors (PF)
- F11: Error management. Interpreters (PF)
- F12: Bootstrapping. Compiler Generators (PF)

Labs

- Separate for TDDB29 (1p) and TDDB44 (2p)
  - TDDB29: 2 lab groups
    - Jonas Wallgren
  - TDDB44: 4 lab groups
    - Peter Bunus, Mikhail Chalabine

- Teams of size 2
- Register via webreg (see link from the course homepage)
  - Deadline for registration: Next friday (4/11/2005)

Literature



Mandatory:

- Aho, Sethi, Ullman: *Compilers Principles, Techniques, and Tools.* Addison-Wesley, 1986.

Mandatory for TDDB44:

- *Compiler Construction Lab Assignments*, Kompendium 2003, Bokakademin

Optional:

- P. Fritzson: *TDDB44 Compiler Construction Lecture Notes*, 2003, Bokakademin.
- *Compiler Construction Exercises*, Kompendium

More information

- See the course homepages,
  - www.ida.liu.se/~TDDB29
  - www.ida.liu.se/~TDDB44

What comes after this course?

- New follow-up course, first time VT 2007: ***Compiler optimization and code generation***. (C. Kessler)
- Join our compiler research team at PELAB and do a ***master thesis project*** in compiler technology!
  - Compiling for OO modeling languages (P. Fritzson)
  - Natural semantics (P. Fritzson)
  - Compiling for parallel / embedded systems (C. Kessler)
  - Code generation (C. Kessler)
  - Debugger technology (P. Bunus)
  - … and more!

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compiler technology