Organizational Issues

Peter Fritzson, IDA

Staff 2014

Peter Fritzson (PF) , Examiner, Course leader, Lecturer  
Jonas Wallgren (JW), Lecturer  
Martin Sjölund (MS), Lecturer  
Martin Sjölund, Course assistant TDDD55 and TDDB44; Lab/tutorial assistant TDDB44  
Adrian Horga, Lab/tutorial assistant TDDB44  
Jimmy Axenhus, Course lab developer TDDB44  
Zeinab Ganjei, Lab/tutorial assistant TDDD55  
Åsa Kärrman, Course secretary  
Tommy Färnqvist, Director of studies

Lecture Plan

• F1: Introduction (PF or MS)
• F2+3: [opt. f. TDDB44] Short introduction to formal languages and automata (JW)
• F4: Lexical analysis; Symbol tables (JW)
• F5: Parsing; Top-Down Parsing (JW)
• F6: Top-Down Parsing cont., Bottom-Up Parsing (intro) (JW)
• F7: Bottom-Up Parsing [LR(0) items opt. f. TDDD55] (JW)

Lecture Plan (cont.)

• F8: Semantic analysis and internal forms. Syntax-driven translation. (MS)
• F9: Memory Management; Run-time organization (MS)
• F10: Code optimization (MS)
• F11: Code generation, general (MS)
• F12: [opt. f. TDDD55] Code generation for RISC and superscalar processors (MS)
• F13: Error management. Interpreters (MS)
• F14: Bootstrapping. Compiler Generators (PF)

Laboratory Assignments

• Separate for TDDD55 (2hp) and TDDB44 (3hp)  
  – TDDD55:  2 lab groups  
    • Zeinab Ganjei (2)  
  – TDDB44:  4 lab groups  
    • Martin Sjölund(1), Adrian Horga (3),  
• Teams of size 2  
• Register via webreg https://www.ida.liu.se/webreg/ (Also linked from the course homepages)  
  – Deadline for registration: Sunday November 10 2014  
• Lab deadline: December 20 2014  
• Extra TDDB44 Exam 3 points: If your TDDB44 labs are completed and approved latest at the deadline you get 3 points at the exam.

Lessons/Tutorials

4 for TDDD55, by Zeinab Ganjei  
4 for TDDB44, by Martin Sjölund
• Exercises on background theory (TDDD55)  
• Preparation for the laboratory assignments  
• Exam preparation session
Literature

Mandatory:
• Or the old, first edition (still ok)

Mandatory for TDDD44:
• *Compiler Construction Lab Assignments*, Kompendium, 2012, Bokakademien

Optional:
• P. Fritzson: *TDDD44 Compiler Construction Lecture Notes*, 2014, and other lecture notes, are on the course home page.
• *Compiler Construction Exercises*, Kompendium

For more information ...

See the course homepages,
– www.ida.liu.se/~TDDD55
– www.ida.liu.se/~TDDB44

• Schedule
• Reading directions
• References to additional literature
• Laboratory instructions for TDDD55
  – (but the lab skeletons are in /home/TDDD55)

What comes after this course?

• Join our compiler research team at PELAB and do a
  master thesis project in compiler technology!
  – Compiling for OO modeling languages (P. Fritzson)
  – Operational semantics based compiler generation (P. Fritzson)
  – Compiler bootstrapping, Java code gen, international open source
    www.openmodelica.org (P. Fritzson)
  – OO modeling language compilation on parallel machines (P. Fritzson)
  – Compilation & parallel programming on industry clusters (P. Fritzson)
  – Compiling for parallel / embedded systems (P. Fritzson, C. Kessler)
  – Code generation for embedded systems (C. Kessler)
  – Debugger technology (P. Fritzson)
  – ... and more!