IL2452 System Design Languages 7.5 credits

Språk för system design

Course syllabus for IL2452 valid from Autumn 10

This is a translation of the Swedish, legally binding, course syllabus.

Grading scale: A, B, C, D, E, FX, F
Education cycle: Second cycle
Main field of study: -

Intended learning outcomes

After completing the course, the student shall be able to

- explain the key concepts proposed for system-level modeling in SystemC and how C++ features are utilized in implementing these concepts

- model systems (both hardware and software) in SystemC

- explain and compare the fundamental modeling mechanisms in SystemC and other digital design languages such as VHDL and Verilog

- master the key transaction level modeling (TLM) concepts and write own models following TLM standards for high-level fast simulation

- contrast different approaches for system-level design

Course main content

- Review of C++ basics from the SystemC perspective
- SystemC concepts: Processes, Modules, Ports, Interfaces, Channels, and SystemC data types
- SystemC simulation kernel
- TLM concepts, interfaces, channels and modeling examples
- ForSyDe methodology

Language of instruction

Language of instruction is specified in the course offering information in the course and programme directory.

Eligibility

120 university credits (hp) in engineering or natural sciences and documented proficiency in English corresponding to English A.

Literature

The course reference books are
- David C. Black, Jack Donovan, Bill Bunton and Anna Keist, SystemC: From The Ground Up, Second Edition, Springer, 2008.
- Thorsten Grötker, Stan Liao, Grant Martin and Stuart Swan, System Design with SystemC, Kluwer Academic Publishers, 2002.

Examination

- LABA - Laboratory Work, 4.5 credits, grading scale: P, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F