Digital Electronics with VHDL 7.5 credits E0001R

Elektronikkonstruktion med VHDL

Course syllabus admitted: Autumn 2011 Sp 2 - Present

DECISION DATE
2011-10-07

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Digital Electronics with VHDL 7.5 credits E0001R

Elektronikkonstruktion med VHDL

First cycle, E0001R

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	G U 3 4 5	Inbyggda system	Electrical Engineering

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Basic programming skills (D0009E).

Selection

The selection is based on 1-165 credits.

Examiner

Per Lindgren

Course Aim

The course aims at developing competence to develop and analyze digital systems. The course should also give skills in using modern tools for digital design such as VHDL.

Contents

Logical gates, combinatorial circuits, decomposition and methods for logic minimization. Finite state machines and sequential circuits. State encoding and minimization. Topological sort for circuit analysis: cycles, critical path, and evaluation. Binary arithmetics and logic, and computational structures. Abstraction of a micro computer in terms its components; e.g. registers, memory, peripheral circuits.

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.
Instruction consists of lectures, (seminars) and assignments. During the course, home assignments may occur, which will give bonus points at the written exam following directly after the course.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. Written exam. Mandatory assignments.

Overlap

The course E0001R is equal to RYM042

Literature. Valid from Autumn 2011 Sp 2

Sjöholm,S/Lindh,L, VHDL för konstruktion, fourth edition, ISBN 9789144024714
or
Sjöholm,S/Lindh,L, VHDL For Designers, first edition, ISBN 9780134734149

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Course offered by

Department of Computer Science, Electrical and Space Engineering

Items/credits

Number	Type	Credits	Grade
0003	Written exam	4.5	G U 3 4 5
0004	Laboratory work	3	U G#

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Jonny Johansson, huvudansvarig utbildningsledare, SRT 2011-10-07

Syllabus established

The course plan was accepted by the Dept of Space Science 2007-02-28 and remains valid as from H07.

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