COURSE SYLLABUS

Digital Electronics with VHDL, 7.5 credits

Digitalteknik med VHDL, 7,5 högskolepoäng

Course Code:	TDVK19	**Education Cycle:**	First-cycle level
Confirmed by:	Dean Dec 1, 2018	**Disciplinary domain:**	Technology
Revised by:	Director of Education Sep 26, 2022	**Subject group:**	DT1
Valid From:	Jan 1, 2023	**Specialised in:**	G1F
Version:	4	**Main field of study:**	Computer Engineering

Contents

The course covers digital design and a basic use of the hardware description language VHDL.

The course covers the following topics:

- The hardware description language VHDL
- Circuit technologies (e.g. CPLD, FPGA, ASIC)
- Data path building blocks (e.g. adders, multipliers)
- Sequential logic (e.g. registers, counters)
- Time critical aspects
- Finite State Machines, FSM
- Design verification (testbenches)

Type of instruction

The course consists of lectures and laboratory work.

The teaching is conducted in English.

Prerequisites

Examination and grades

The course is graded 5,4,3 or Fail.

The final grade will only be issued after satisfactory completion of all assessments.

Registration of examination:

Name of the Test	Value	Grading
Examination[I]	4 credits	5/4/3/U
Laboratory work	3.5 credits	U/G

[I] Determines the final grade of the course, which is issued only when all course units have been passed.

Course literature

Literature

The literature list for the course will be provided 8 weeks before the course starts.

Title: VHDL för konstruktion
Author: Stefan Sjöholm och Lennart Lindh (2014)
Publisher: Studentlitteratur
ISBN: 978-91-44-09373-4

Alternatively,

Title: VHDL for Designers
Author: Stefan Sjöholm and Lennart Lindh (1997)
Publisher: Prentice Hall
ISBN: 978-01-34-73414-9