

# Welcome to DAT093

## “Introduction to electronic system design”

Lars Svensson

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# Why?

1. Electronic design in system context

2. Brush-up of HDL-based digital design

- Complement MCC092 “Digital Integrated Circuit Design”
- Top-down vs. bottom-up

3. Basic DSP implementations

# What?

- Lectures (1 to 3 per week)
- VHDL kick-start workshop (week 1)
  - Compulsory!
- Lab sessions (1 each in weeks 2–7)
  - Compulsory!
  - Pre-lab preparations (important!)
- Sit-down exam (Oct 27, 08:30 – 12:30)

# Examination?

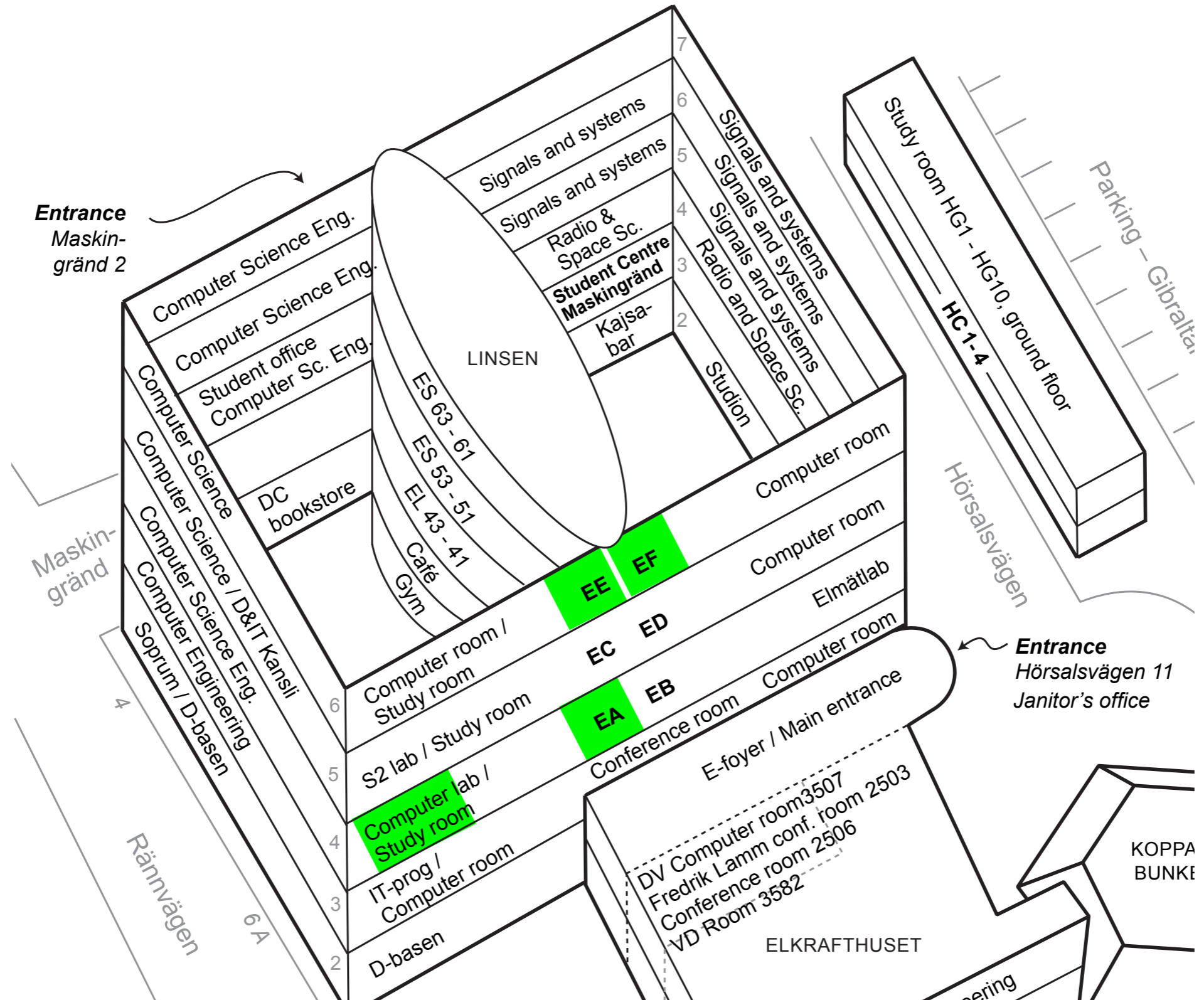
- Need to complete lab series and pass sit-down exam to pass the course.
- Grade computed from sit-down result + bonus points earned during lab series.
- Details on course web page in PingPong

# When?

	Lab session (w 2–4)	Lab session	Lecture	
			Lab FB	
L	U	N	C	H
Lecture		Lab session		
				Lecture

- Typical week (details in PingPong)

# Where?



# Kick-start workshop?

- Initial lab session in week 1 (that is, Wednesday + Friday this week)
- Small VHDL design / simulation tasks to get up to speed with language, tools
- Wed 8–12 (+ Fri 10–12), or Wed 13–17 (+ Fri 8–10)
- Students will be assigned to one alternative
- See me during break if either is impossible for you



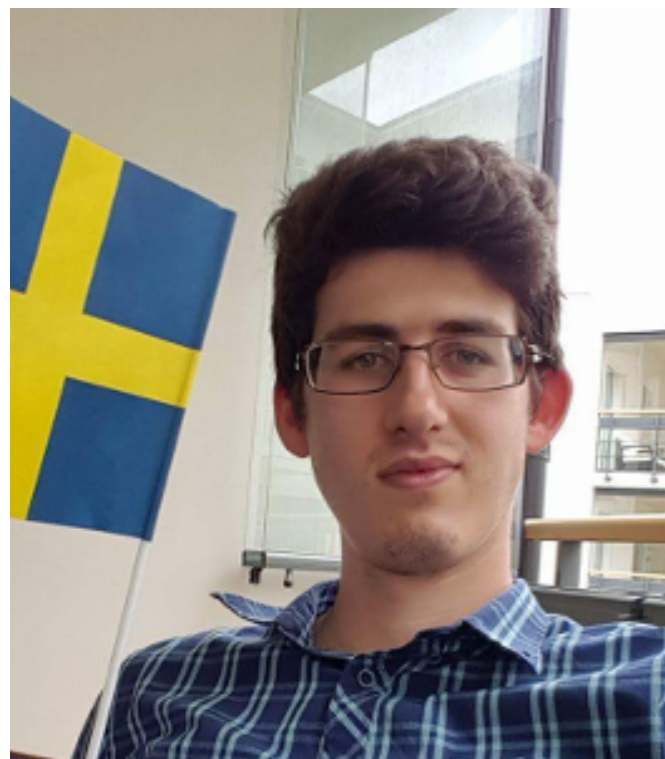
# Who?



Lars Svensson  
[larssv@chalmers.se](mailto:larssv@chalmers.se)



Sven Knutsson  
[svenk@chalmers.se](mailto:svenk@chalmers.se)



Stefano Ribes  
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Likai Chu  
[likai@student.chalmers.se](mailto:likai@student.chalmers.se)



Christian Krizan  
[krizan@student.chalmers.se](mailto:krizan@student.chalmers.se)

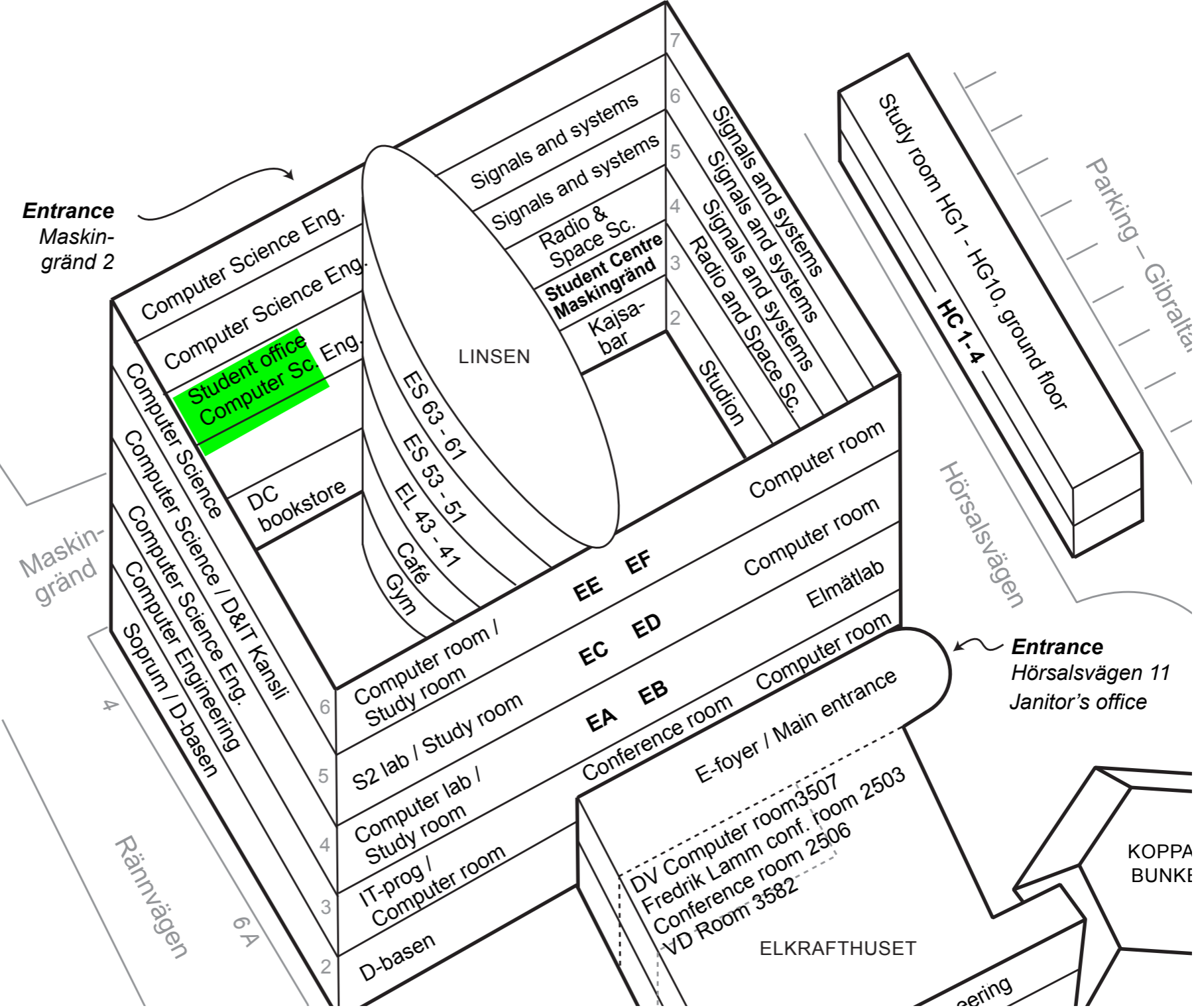


Kenneth Peter  
[peterke@student.chalmers.se](mailto:peterke@student.chalmers.se)



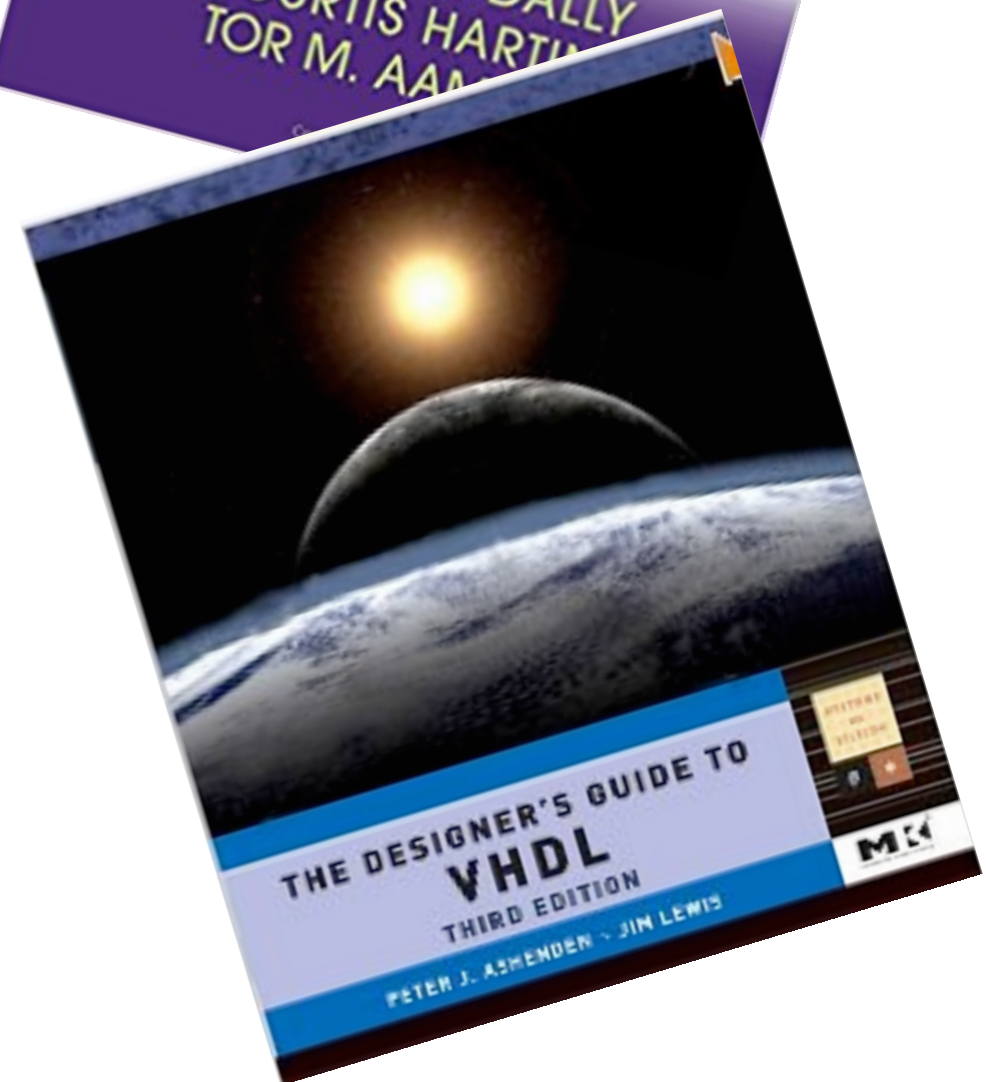
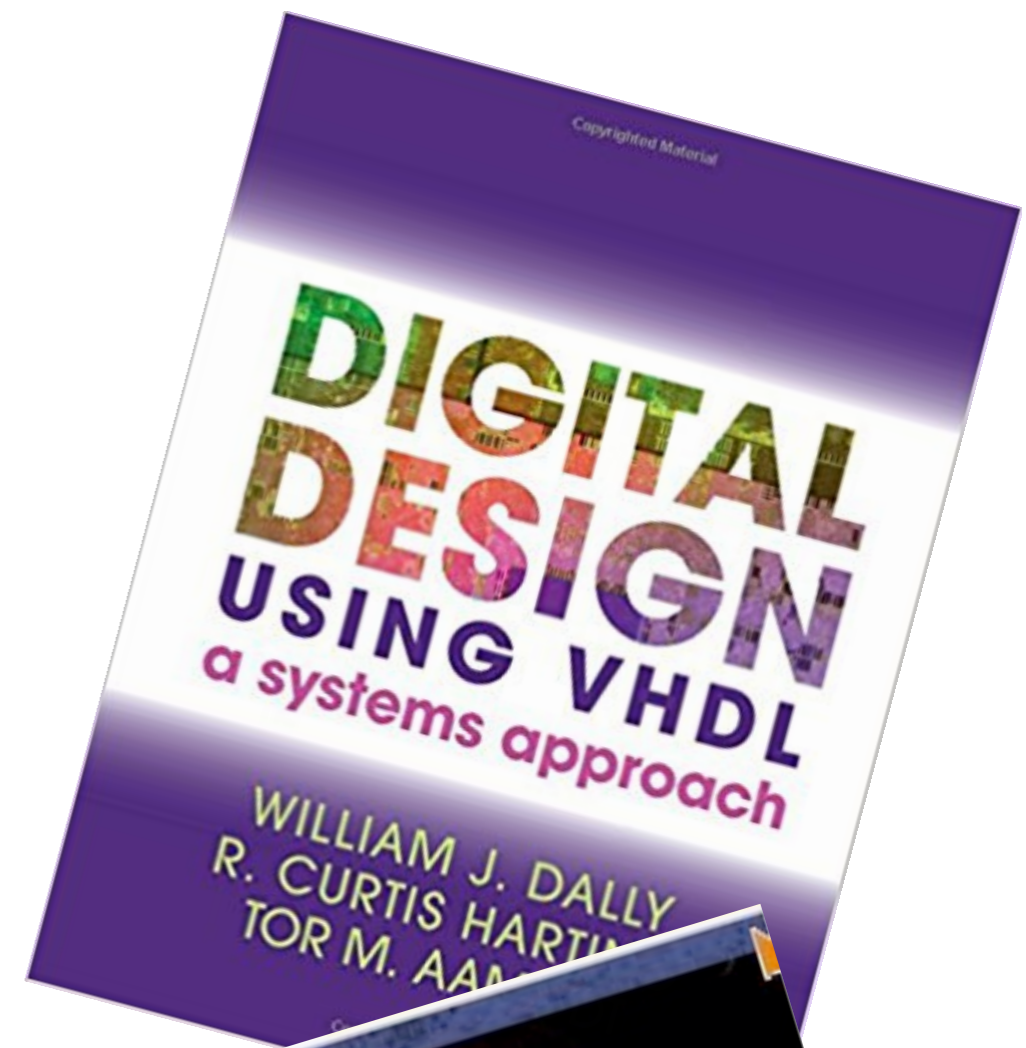
# Offices

4th floor

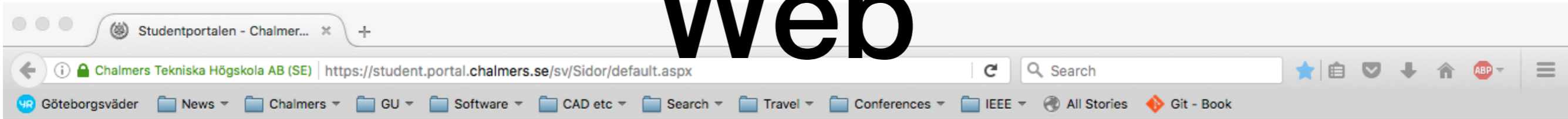


# Literature

- No textbooks specified for course
- VHDL textbook
  - Suggested: Dally et al, “Digital Design using VHDL”
- VHDL reference book
  - Suggested: Ashenden, “Designer’s Guide to VHDL”
- Handouts, lab PMs, other material will be posted in PingPong



# Web



**CHALMERS**  
Studentportalen

Studier

Kontakt och service

Studentliv

Karriär och jobb

Sök

In English

Som inloggad får du tillgång till alla våra studenttjänster. [Logga in](#)



## Ny student 2016

Tackat ja till din plats? Sommarmatte? Vad händer vid terminsstart? Var ska jag vara och när? Här hittar du viktig information om studiestarten.

## Kalendarium - Studentportalen

AUG  
**29**  
2016

Terminsstart för Chalmerister på masterprogram  
Ny student 2016

AUG  
**29**  
2016

Terminsstart och upprop för Sjöbefäl klass VII  
Ny student 2016

SEP  
**09**  
2016

Information för efterslänrare  
Ny student 2016

SEP  
**15**  
2016

Välkomstkävll på Världskulturmuseet  
Ny student 2016

## Nyheter - Studentportalen

Utlysning av stipendier: Sverige-Amerika Stiftelsen  
2016-08-19

Nyheter i reglerna om examination  
2016-08-12

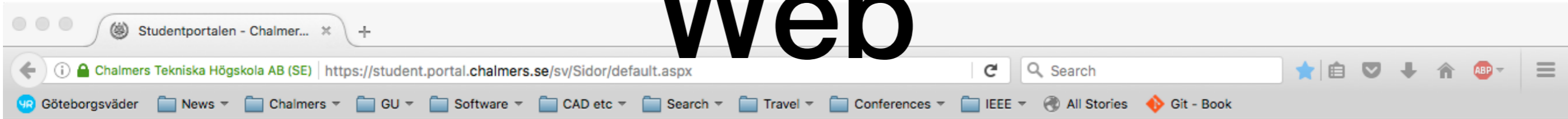
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Intresserad av praktik i Tyskland?  
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**FLER NYHETER**



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# Web



**CHALMERS**  
The Student Portal


Studies

Contact and service

Student Life

Careers and Jobs

Search

 På svenska

Login to get access to all our services for students. [Login](#)



## Incoming student 2016

Welcome to Sweden, Gothenburg and Chalmers! Here we have collected useful information for you.



## Calendar - The Student Portal

SEP 01 2016  
Apply for a Personal identity number  
Incoming student 2016

SEP 07 2016  
Improve your study skills  
Incoming student 2016

SEP 09 2016  
Information for latecomers  
Incoming student 2016

SEP 15 2016  
Welcome evening at the Museum of World Culture  
Incoming student 2016

[MORE EVENTS](#)

## News - The Student Portal

Updated rules regarding examination  
8/12/2016

Change in the re-examination periods from next academic year, 2016-2017  
6/21/2016

Share Latex for students at Chalmers  
4/1/2016

Gas leak in the Chemistry Building  
2/16/2016

[MORE NEWS](#)





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## Find on campus with the app ChalmersMap

The app helps you to find lecture rooms, schedules and much more.

SEP 09 2016 Information for latecomers Incoming student 2016

# Web

SEP 15 2016 Welcome evening at the Museum of Cultural History Incoming student 2016

MORE EVENTS



## Hello all new students!

You are welcome to take advantage of

4/1/2016

Gas leak in the Chemistry Building  
2/16/2016

MORE NEWS



## The academic year - dates and times

See how the academic year and the semesters are scheduled and the important dates you should keep in mind.

Start >

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### Available jobs

### Shortcuts

Schedule / TimeEdit	Library
Academic year	Student Union
Ping-Pong	Master's thesis
Book group room	Student Centres
Rules and directives	About the Student Portal

When the unexpected happens





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# Web

Sign In

idp.chalmers.se

Type your user name and password.

User name (CID):

Password:

# Web

Sign In

https://idp.chalmers.se/adfs/ls/?SAMLRei

Search

Göteborgsväder News Chalmers GU Software CAD etc Search Travel

Sign In

idp.chalmers.se

Type your user name and password.

User name (CID):

Password:

Sign In

# Web

The screenshot shows a web browser window with the following elements:

- Browser Tabs:** "The Student Portal at Chal...", "Start page [PING PONG]"
- Address Bar:** "https://pingpong.chalmers.se/startPage.do"
- Navigation:** Back, Forward, Search, Home, and other browser icons.
- Bookmarks:** Göteborgsväder, News, Chalmers, GU, Software, CAD etc, Search, Travel, Conferences, IEEE, All Stories, Git - Book.
- Page Header:** "CHALMERS" logo and "Help" link.
- Navigation Menu:** Events, Personal, Communication, Tools, Support, and a user profile for "Lars Svensson".
- Start page:** A button labeled "Start page".
- Main Content Area:**
  - Left Sidebar:** "My events" section with a dropdown menu "Choose event..." and a list of "Recently visited events" including "DAT093\_Introduction to electronic system design\_HT16" and "Lärrforum".
  - Center:** "Welcome Lars Svensson!" heading, followed by a welcome message: "Welcome as a user of PingPong, Chalmers Learning Management System." and instructions on how to use the system.
  - Right Sidebar:** "What's new" section with a list of unread messages and assignments, including "1 unread messages in Information" and "DAT093\_Introduction to electronic system design\_HT14: 11 unmarked assignments".



# Web

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- Browser Tab:** "Start page [PING PONG]"
- Address Bar:** "https://pingpong.chalmers.se/startPage.do"
- Navigation Bar:** Includes "Göteborgsväder", "News", "Chalmers", "GU", "Software", "CAD etc", "Search", "Travel", "Conferences", "IEEE", "All Stories", and "Git - Book".
- Header:** "CHALMERS" logo and "Help" link.
- Navigation Tabs:** "Events", "Personal", "Communication", "Tools", "Support", and "Lars Svensson" (with profile picture).
- Main Content:**
  - Left Sidebar:** "My events" section with a dropdown menu "Choose event..." and a list of "Recently visited events":
    - DAT093\_ Introduction to electronic system design\_HT16** (circled in red)
    - DAT093\_ Introduction to electronic system design\_HT15
    - Läraryorum
  - Center:** "Welcome Lars Svensson!" message. Text includes: "Welcome as a user of PingPong, Chalmers Learning Management System.", "PingPong is the official system for course homepages at Chalmers.", "Course homepages ('Events') for the courses that use the system will be available in the list on the left when you have been registered to the course. You can also check under **All my Events**, there you have all your available Events.", and "If you have problems with your CID account (double accounts, login problems etc.) you should contact support@chalmers.se . If you have questions about access to a course homepage or how the system is used in a specific course you should primarily **talk to your teacher**."
  - Right Sidebar:** "What's new" section with notifications:
    - 1 unread messages in *Information*
    - DAT093\_Introduc... to electronic system design\_HT14: 11 unmarked assignments
    - DAT096 DAT096 Konstruktionsproj... i inbyggda elektroniksystem V16: 55 unread messages

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- Header:** "CHALMERS" logo and "Help" link.
- Navigation Menu:** "Events", "Personal", "Communication", "Tools", "Support", and "Lars Svensson" (with profile picture).
- Main Content:**
  - Left Sidebar:** "My events" section with a dropdown menu "Choose event..." and a list of "Recently visited events". The first event, "DAT093\_Introduction to electronic system design\_HT18", is circled in red.
  - Center:** "Welcome Lars Svensson!" section with a welcome message and instructions on how to use the system.
  - Right Sidebar:** "What's new" section with a list of unread messages and assignments.



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- Main Content:**
  - Welcome Message:** "Welcome Lars Svensson! Welcome as a user of PingPong, Chalmers Learning Management System. PingPong is the official system for course homepages at Chalmers. Course homepages ('Events') for the courses that use the system will be available in the list on the left when you have been registered to the course. You can also check under **All my Events**, there you have all your available Events. If you have problems with your CID account (double accounts, login problems etc.) you should contact support@chalmers.se . If you have questions about access to a course homepage or how the system is used in a specific course you should primarily **talk to your teacher**."
  - My events sidebar:** Includes a "Choose event..." dropdown and a "Recently visited events" list. The first event, "DAT093\_Introduction to electronic system design\_HT18", is circled in red.
  - What's new sidebar:** Lists unread messages, including "1 unread messages in Information" and "DAT093\_Introduction to electronic system design\_HT14: 11 unmarked assignments".

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- Browser Address Bar:** <https://pingpong.chalmers.se/launchCourse.do?id=6988>
- Navigation Bar:** Includes 'Göteborgsväder', 'News', 'Chalmers', 'GU', 'Software', 'CAD etc', 'Search', 'Travel', 'Conferences', 'IEEE', 'All Stories', and 'Git - Book'.
- CHALMERS Header:** Logo on the left, 'Help' on the right.
- Navigation Menu:** 'Events', 'Personal', 'Communication', 'Tools', 'Support', and 'Lars Svensson' (with profile picture).
- Breadcrumbs:** Start page > Events > DAT093\_Introduction to electro... > Message board
- Course Title:** **DAT093\_Introduction to electronic system design\_HT16**
- Message Board Controls:** '+ New message', 'Copy messages', 'Delete selected messages'
- Page Info:** Page: 1, Message per page: 50
- Message Table:**

<input type="checkbox"/> All	<u>Heading</u>	<u>Message for</u>	<u>Last changed</u> ▲	<u>Shown until</u>	<u>Read by</u>	<u>Public</u>
<input type="checkbox"/>	<u>Welcome to the 2016 installment of DAT093!</u>	Members	27 jun 2016 14:08	From now on	<u>4 (7)</u>	No

Left sidebar menu items:

- Event
- What's new
- Content
- Documents
- FAQ
- Communication
- Members
- Message Board (selected)
- Project groups

Web

Events

Personal

Communication

Tools

Support

Lars Svensson



Start page > Events > DAT093\_Introduction to electro... > Message board

# DAT093\_Introduction to electronic system design\_HT16

Event

What's new

Content

Documents

FAQ

Communication

Members

Message Board

Project groups

Links

TimeEdit schedule

Toolbox

## Message board

+ New message Copy messages X Delete selected messages

Page: 1

Message per page: 50

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# PingPong pages

- 36 students listed, 31 registered (as of this morning)
  - Need to register for course to have full PingPong access!
  - Note: student registrations may take overnight to propagate to PingPong!
  - Session assignment for workshop will be on “open pages” (find from web course catalog, or email me)
- Still to be posted:
  - Lab groups for second half (co-assigned with MCC092)
  - Expect these in week 2

# Course evaluation

- Student representatives collect feedback from fellow students and feed to teachers
- One startup meeting w/ teachers
- One meeting in week 4–5 w/ teachers, for early feedback
- One meeting after end of course, for summarizing the feedback (w/ teachers and management)
- Web-based questionnaire after course



# Student reps:

- Sinan Ding
- Emil Emanuelsson
- Prasanna Kotrappa
- Tayyaba Tahseen
- Erik Tilly

# Changes

- 2015:
  - Lab series reshuffle, break after lab 3, peer code review
  - Adjusted grading to emphasize lab series
  - Industry guest lectures
- 2016:
  - VHDL kick-start workshop added in week 1
  - Industry guest lectures dropped again :-(
  - Peer-code review upgraded
- 2017:
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  - More lab TAs
- 2018:
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**Your Feedback  
Matters!**