# Chapter 1 - Introduction and overview

## Introduction

Thorsten Knoll

1. Welcome
2. Course overview
3. Course components
4. The Training sessions
5. Open-source EDA for digital designs
6. AMA (Ask me anything)

Section 1

# Welcome

# Trainer profile

Me:

- Name, Company / Uni
- Why i’m here. My motivation.
- What i’ve done before.
- What interests me most.

# Participants backgrounds and motivations

You:

**Name, Company / Uni**

**Why i’m here. My motivation.**

**What i’ve done before.**

**What interests me most.**

Section 2

# Course overview

# Chapter names

- 01 Introduction
- 02 Workflow
- 03 Design and example pick
- 04 OpenROAD first run
- 05 PDK Examination
- 06 Data in OpenROAD
- 07 LVS and DRC
- 08 Simulation and PPA
- 09 Scripting
- 10 GDS and Tapeout

# Chapter names

- 01 Introduction
- 02 Workflow
- 03 Design and example pick
- 04 OpenROAD first run
- 05 PDK Examination

Day 1 - 2

- 06 Data in OpenROAD
- 07 LVS and DRC
- 08 Simulation and PPA
- 09 Scripting
- 10 GDS and Tapeout

Day 3 - 5

# Schedule for the course

| | Mon | Tue | Wed | Thu | Fri |
|---|---|---|---|---|---|
| Morning | **L1:** Intro and Overview<br>**L2:** Workflow RTL-to-GDS | **Q1, Q2, Q3:** Recap<br>**L4:** OpenROAD First run<br>**T4:** Training | **Q4, Q5:** Recap<br>**L6:** The data in OpenROAD | **Q6, Q7:** Recap<br>**L8:** Simulation and PPA<br>**T8:** Training | **L10:** GDS and Tapeout<br>**Q8, Q9, Q10:** Recap |
| Lunchbreak | | | | | |
| Afternoon | **L3:** Dig. Design and examples<br>**T3:** Training | **T4:** Training<br>**L5:** PDK Examination<br>**T5:** Training | **L6:** The data in OpenROAD<br>**T6:** Training<br>**L7:** LVS/DRC reading | **L9:** Scripting in OpenROAD | Spare time and Wrap-Up |

**L :** Lectures

**T :** Training and Hands-On

**Q :** Questions

Section 3

# Course components

# Lectures

# Trainings

# Cheat Sheets

Some things are really hard to remember:

- Abbreviations
- Complex relations and graphics
- Mathematics (joking, wer’re not doing math here)
- …

- That is why we have Cheat Sheets.
- They’re made for cheating the hard parts.
- Cheatsheets work best when printed as handouts.
- You should have them nearby the computer during the course.

# Questions

- The questions are for re-visiting and remembering a previous chapter.
- They guide an interactive session between the trainer and the room:
  - Trainer: Asks the questions.
  - Room: Answers the questions.
    - Skipping a question is fine.
    - Not knowing the answer is fine.
    - This is not a test nor a challenge.
    - Think of this as a helpfull recap of yesterdays content.
  - If no answer is found, the trainer helps with the answer.

Section 4

# The Training sessions

# Login at IHP

Now:

- Onboarding to the computers for everyone

# Levels

- Success points inbetween lectures
- This is too fast
- This is too slow

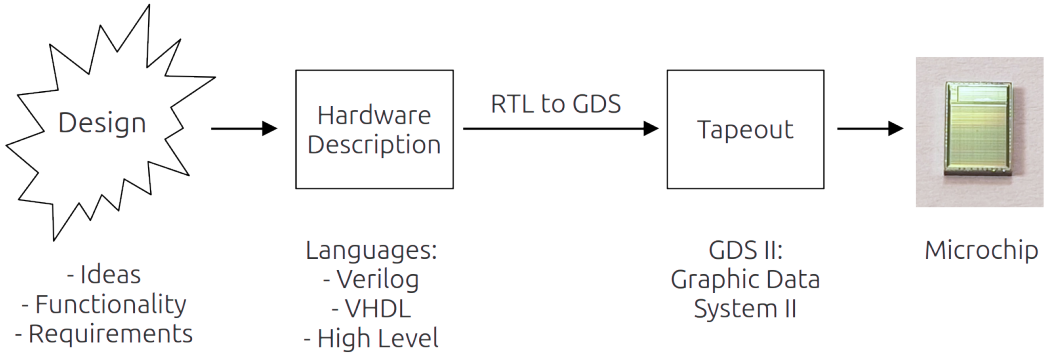
# Availablitily GitHub PDF Downloads

- Follow in your own tempo. Get all the data here:
- Link / QR to the course materials

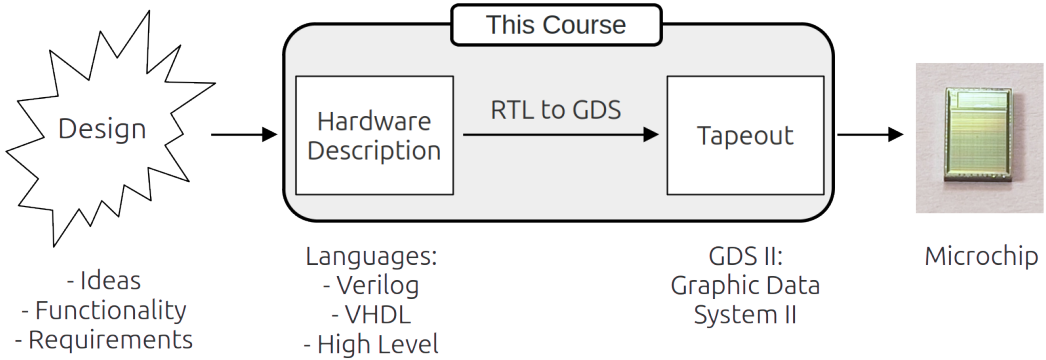
Section 5

# Open-source EDA for digital designs

# From Design to Microchip



# RTL to GDS - Workflow



# The cheatsheet

First usage of the cheatsheet:

- EDA
- RTL
- GDS II
- ....

# Further topics

- What is the new thing with this course?
- Advantages of open-source in EDA
- The actual state of open-source EDA
- Goals of this course.
- How to participate and interact with this course.
- Producing chips at IHP with the open PDK

Section 6

# AMA (Ask me anything)

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- Opportunity to ask questions about everything (chapter 1 ?).