ADVANCED VLSI DESIGN
Spring 2024
Schedule

ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Week	Class Day	Work
1	18/02/2025	• **Lecture: Dynamic Logic** • Exercise on dynamic logic
2	25/02/2025	• **Lecture: Fast Adders** • Exercise on dynamic logic (cont.) • **Check point: tutorial completed**
3	04/03/2025	• **Lecture: Project Assignment** • G-P Generation Block • 4 Bit Carry Select Adder (Schematics/Simulation)
4	11/03/2025	• Carry-Merge Unit (atomic element) • Carry Merge Block (Schematic/Simulations)
5	18/03/2025	• D Flip Flop Design (Schematic/Simulations) • Top-level: Start Combining all Blocks
6	25/03/2025	• **Lecture: Floorplan and Layout** • Top-level: Combining all Blocks & Clock Tree
7	01/04/2025	• Optimization of the overall design (transistor sizing) • Toplevel verification with provided tester
8	08/04/2025	• **Midterm Presentation (graded): toplevel verified (frontend only)** • Initial high-level floorplan
9	15/04/2025	• Discussion and Refinement of Floorplan with the TAs • **Check point: floorplan completed** • Start with Layout
10	22/04/2025	EASTER VACATION
11	29/04/2025	• Drawing the layouts
12	06/05/2025	• Drawing the layouts
13	13/05/2025	• Drawing the layouts
14	20/05/2025	• Drawing the layouts
15	27/05/2025	• Finalizing the layouts • **Final Presentation (graded): verified post-layout**

Course Rules for the Students:

- Attend the classes regularly! There will be many announcements, important presentations about the details and the specifications of your project.
- If you don't have a background on using Cadence, you can benefit from the tutorials on the Moodle website. The tutorials are quite basic and easy to understand.
- Assistants are present in the laboratory to answer your questions so do not hesitate to ask them.
- If you would like to ask a question except during the course hours, write your question on the Moodle website under the **Course Forum**. This way your classmates can also benefit from the answers given to your questions.
- Try to read and understand the questions asked by your classmate in the **Course Forum**. This way, you can learn about a potential problem before reaching that step and prevent asking the same question for a second time.
- Try to answer the questions of your classmates by using the **Course Forum**. This way, your classmates can get a faster answer.
- If you would like to ask a question to the assistants face to face or on the computer, please send an e-mail **for determining an appointment**. You can also summarise your problem on your mail so that the assistant who will help you can also be ready before the appointment time.