

## Embedded Computer Architecture

5SIA0

2018-2019 Colleges: Monday 3,4 (Gemini-Zuid) and Wednesday 9,10 (Auditorium 5)

Teacher: Henk Corporaal

Teaching assistants: Luc Waeijen, Sayandip De, Mark Wijtvliet, Patrick Wijnings, Martin Roa Villescas, Ali Banagozar

Guest lectures: Maurice Peemen, Zhenyu / Gert-Jan vd Braak

### Tentative schedule

Date	Topic	Material	Assignments + Remarks
12 Nov	Course overview + Introduction	Ch 1	
14 Nov	<a href="#">CGRA and Accelerators: Mark Wijtvliet</a>		CGRA lab < Dec 5
19 Nov	Processor Architectures - 1	Ch 3	
21 Nov	Processor Architectures - 2	Ch 3	
26 Nov	Technology Impact	Ch 2	
28 Nov	<a href="#">GPU: Gert-Jan van den Braak (Philips Medical Systems)</a>		GPU lab < Jan 6
3 Dec	Processor Architectures - 3 / ARM	Ch 3	
5 Dec	Processor Architectures - 4	Ch 3	
10 Dec	Processor Architectures - 5, TTAs, ILP measurement	Ch 3	
12 Dec	Memory hierarchy - 1	Ch 4	
17 Dec	<a href="#">GEM5+ Simulation: Luc Waeijen</a> + Memory hierarchy - 2	Ch 9	GEM5 multiproc. lab < Jan 20
19 Dec	<a href="#">Deep Learning Neural Networks: Maurice Peemen (Thermo Fisher Scientific)</a>		
7 Jan	Loop transformation for Data Reuse		(extended in compiler course)
9 Jan	Multiprocessor systems + Interconnection networks	Ch 5, 6	
14 Jan	Coherence, synchr. and consistency	Ch 7	
16 Jan	SMT: Simultaneous Multi-Threading + Wrap-up	Ch 8	