

timetable_AKE.pdf

Elektronische Schaltungen und Systeme				Lab Practical Training for ESS				
#	Tuesday	Room	Classroom Training: Lectures	proj.	sco	date	Practical Training	proj.
0	03.10.2023	S103	no lectures				no lectures	
1	10.10.2023	S103	C2: Switch-Mode Conversion, Ch 2.1 ready	2,08	2,08	10. + 13.10.	Intro., safety instruction, grouping, GetStart with Quartus	
2	17.10.2023	S103	C2: S-M Conv., Ch 2.2.2 ready * detail 7seg, pin prot	2,15	2,10	17. + 20.10.	P1: Getting Started with DE1-SoC Board	1,08
3	24.10.2023	S103	C2: Switch-Mode Convers., C. 2.2, Matlab: PTF p+z	2,20	2,12	24. + 27.10.	P1: Getting Started DE1-SoC * P2.1: p.1-6 @ home	1,12
4	31.10.2023	S103	C2: Starting with Simulink, Loop model nearly finished	2,27		31.10.+3.11.	P2: DCDCbuck Start, H: Ch.1+2 * Ch. 3.1+3.2,p.7-16	2,16
5	07.11.2023	S103	C3: ADA Conversion Modeling	3,05		07. + 10.11.	P2: DCDCbuck Start, Ch.3.3 + 4.embedded, p. 17-22	2,22
6	14.11.2023	S103	C3: ADA Conversion Modeling	3,11		14. + 17.11.	P3: CharComp: H: C.1+2.1,p1-6 * C.2: Tools pp.7-13	3,13
7	21.11.2023	S103	C4: Control Loops	4,12		21. + 24.11.	P3: CharComp: Ch. 3.2+3.3, characterize C + L	3,20
8	28.11.2023	S103	C4: Control Loops \ 4.1.3.1 Nyquist/Shannon Criterion	4,21		28.11.+1.12.	P3: CharComp: Ch. 3.4+3.4, characterize+model RLC	3,30
9	05.12.2023	S103	C5: Analog PID Controllers	5,09		05. + 08.12.	P3: CharComp: Ch. 3.4+3.4, characterize+model RLC	3,30
10	12.12.2023	S103	C5: Analog PID Controllers	5,20		12. + 15.12.	P4: LoopGain: H: Ch.1-2,p.1.11 * Ch.3.1+2:open Loop	4,15
11	19.12.2023	S103	C5: Analog PID Controllers	5,30		19.12.	P4: LoopGain: Ch.3.3-3.6, p.16-20: open-loop finished	4,20
12	09.01.2024	S103	C6: Digitalization: s -> z	6,08		09.+12.01.	P4: LoopGain: H: C.4.1+2, C.4.3-6:MB p.20-28, H:C.5	4,30
13	16.01.2024	S103	C6: Digitalization: s -> z	6,12		16.+19.01.	P5: Debugging DCDCbuck_R10 Board	5,12
14	23.01.2024	S103	semester ends					
Legend: C. or Ch: chapter, p. or pp.: pages, H: homework								
Friidays:		room	Exercises	Course		Legend:		
1	06.10.2023	S-110	Test of skills	C1:introduction	1,06	1,06	P1: Intruduction to required EDA ^{*)} tools, conducted by supervisor	
2	13.10.2023	S-110	Eswitch, Psw=2*fs*Eswitch	SC1.1+1.2: LTI Systems	1,05	1,05	P2: Document: GettingStarted_with_DE1SoC_Board	
3	20.10.2023	S-110		Laplace transform			P3: Document: GettingStarted_with_DCDCbuck_Board_Rev10	
4	27.10.2023	S-110	Complex Impedances	BE: C models, counterfeit			P4: Document: Characterize_LoopGains of DCDCbuck	
5	03.11.2023	S-110					P5: Document: Characterize Passive Components of DCDCbuck	
6	10.11.2023	S-110					P6: Document: Debugging the DCDCbuck Board	
7	17.11.2023	S-110					P7: Adapt Matlab/Spice model to meas. data, begin project thesis	
8	24.11.2023	S-110						
9	01.12.2023	S-110						
10	08.12.2023	S-110					^{*)} EDA tools: Practical: Quartus 21, Eagle 7, Bode100 Analyser Suite	
11	15.12.2023	S-110					Matlab/Simulink with Toolboxes: Control System, DSP System	
12	12.01.2024	S-110					Fix.Point-Desig., Mixed-Signal Blockset, Model Pred. Control,	
13	19.01.2024	S-110					Optimization, Signal Process., Simulink control Design + Opt.	