

Lecture Content and Schedule

Integrated Circuits for Broadband Communications

- Version 23.08.2023, modifications possible, please check regularly
- Change of dates for tutorials may be possible according to preferences of students if ok for tutors
- On Fridays, lectures and tutorials (1. and 2. DS) are in GÖR 226
- On Tuesdays (5. DS), lectures and tutorials are in GÖR 127
- Please bring your portable personal computer (PC) to lab tutorial sessions
- Lecturer: Prof. Frank Ellinger
- Tutorials and contact: Dr. Gunia, Marco.Gunia@tu-dresden.de

Lectures			Tutorials		
No	Date	Content	No (min)	Date	Content
1	10.10.23 (5. DS)	0. Prelude (11/11) 1. Apps, standards & technologies (9/12)			
2	13.10.23 (1. DS)	2. System considerations (27/29)			
3	13.10.23 (2. DS)	3. Optical devices (22/29)			
4	17.10.23 (5. DS)	3. Optical devices (continued)	1 (90)	24.10.23 (5. DS)	<i>ICBC theory tutorial I: System considerations</i>
5	27.10.23 (1. DS)	4. Transimpedance amplifiers (59/95)			
6	27.10.23 (2. DS)	4. Transimpedance amplifiers (continued)			
7	3.11.23 (1. DS)	5. Limiters and buffers (31/33)			
8	3.11.23 (2. DS)	6. Laser drivers (22/25)	2 (90)	10.11.23 (1. DS)	<i>ICBC theory tutorial II: Common Stage Topologies (part I)</i>
			3 (90)	10.11.23 (2. DS)	<i>ICBC theory tutorial II: Common Stage Topologies (part II)</i>
9	17.11.23 (1. DS)	7. Voltage controlled oscillators (51/74)			
10	17.11.23 (2. DS)	7. Voltage controlled oscillators (continued)	4 (90)	21.11.23 (5. DS)	<i>ICBC lab tutorial 1: Initial Step For Start, Circuit simulation in LTspice</i>
			5-6 (180)	24.11.23 (1.-2. DS)	<i>ICBC lab tutorial 2: Simulation of Common-Source Amplifiers</i>
11	1.12.23 (1. DS)	8. Phase locked loops and synthesizers (37/47)			
12	1.12.23 (2. DS)	8. Phase locked loops and synthesizers (continued)			
13	08.12.23 (1. DS)	9. Clock data recovery (49/57)			
14	08.12.23 (2. DS)	9. Clock data recovery (continued)	7-8 (180)	15.12.23 (1.-2. DS)	<i>ICBC lab tutorial 3: Simulation of Further Amplifiers</i>
15	05.01.24 (1. DS)	10. Multiplexer and demultiplexer (16/19)			
16	05.01.24 (2. DS)	11. Frequency dividers (21/24) 12. Transceiver implementation examples (8/8)	9-10 (180)	12.01.24 (1.-2. DS)	<i>ICBC lab tutorial 4: Quadrature Phase Ring Oscillator</i>
			11 (90)	16.01.24 (5. DS)	<i>ICBC theory tutorial III: Phase-Locked Loop</i>
17	19.1.24 (1. DS)	13. Chip design procedure (11/12) 14. Conclusions (6/6)			
18	19.1.24 (2. DS)	Backup (if needed)	12-13 (180)	26.01.24 (1.-2. DS)	<i>ICBC lab tutorial 5: Phase detector</i>
			14 (90)	30.01.24 (5. DS)	Open questions