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Annex 1: English-language consecutive degree programme in Design and Test for Integrated Circuits leading to the award of Master of Science
PROGRAMME SCHEDULE

Module	Semester 1	Semester 2	Semester 3	Semester 4	Workload Credits Total
1. Core modules:					
243031-055 Design of Digital Systems	150 SH 4 TU (L1/EC1/S1/PC1) EP: practical class AC: written examination				150 SH / 5 Cr
243031-075 Design of Heterogeneous Systems		150 SH 4 TU (L1/EC1/S1/PC1) EP: practical class AC: written examination			150 SH / 5 Cr
243031-085 Test of Digital and Mixed-Signal Circuits	150 SH 4 TU (L1/EC1/S2) AC: written examination				150 SH / 5 Cr
243031-125 Elements of Integrated Circuits	150 SH 4 TU (S2/PC2) EP: practical class AC: oral examination				150 SH / 5 Cr
244032-035 Technologies for Micro and Nano Systems	30 SH 1 TU (L1)	150 SH 4 TU (L2/EC2) AC: written examination			180 SH / 6 Cr

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244034-085 Integrated Circuit Design – Transistor Level		150 SH 4 TU (L2/EC1/PC1) EP: practical class AC: oral examination			150 SH / 5 Cr
244036-055 Reliability of Micro and Nano Systems	120 SH 4 TU (L3/EC1)	60 SH 2 TU (L1/EC1) AC: written examination			180 SH / 6 Cr
2. Specialisation modules: From the specialisation modules 2.1 to 2.5 named below, modules with a total of 53 Cr are to be selected. To broaden the range of choice, modules with a total of up to 57 Cr may also be chosen. These additional credits are not credited towards the degree programme. From the area 2.4 Practice-oriented specialisation modules, modules with a total of at least 10 Cr and at most 38 Cr are to be selected.					
2.1 Specialisation modules Test and Reliability					
212001-334 Modern microscopies		150 SH 4 TU (L2/EC2) AC: written examination			150 SH / 5 Cr
243031-065 Verification of Digital Systems		150 SH 4 TU (EC1/S2/PC1) 2 EP: oral presentation, practical class AC: written examination			150 SH / 5 Cr

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244036-065 Numerical Methods for Materials and Reliability of Micro and Nano Systems		150 SH 4 TU (L2/EC2) AC: preparation of a finite element model and presentation with colloquium			150 SH / 5 Cr
244036-075 Failure Analytical Methods for Micro and Nano Systems			150 SH 4 TU (L2/PC2) EP: practical class AC: written examination		150 SH / 5 Cr
244038-035 Smart Sensor Systems	180 SH 5 TU (L2/EC1/PC2) EP: practical class AC: written examination				180 SH / 6 Cr
2.2 Specialisation modules Design and Technology					
212001-371 Semiconductor Physics – Nano Structures		150 SH 4 TU (L3/EC1) AC: written examination			150 SH / 5 Cr
244032-055 Advanced Integrated Circuit Technology		150 SH 4 TU (L3/EC1) AC: written examination			150 SH / 5 Cr

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Module	Semester 1	Semester 2	Semester 3	Semester 4	Workload Credits Total
244033-115 Microsystems Design			180 SH 5 TU (L2/EC1/PC2) EP: practical class AC: written examination		180 SH / 6 Cr
244034-045 Micro and Nano Devices	180 SH 5 TU (L2/EC1/PC2) EP: practical class AC: written examination				180 SH / 6 Cr
244037-025 Flexible Electronics		150 SH 4 TU (L2/EC2) AC: written examination			150 SH / 5 Cr
2.3 Specialisation modules Application of Integrated Circuits					
243031-045 Digital Components and Architectures for Data Processing	150 SH 4 TU (S2/EC2) AC: written examination				150 SH / 5 Cr
243032-055 Multisensorial Systems	60 SH 2 TU (L2)	90 SH 2 TU (L1/PC1) EP: practical class AC: written examination			150 SH / 5 Cr
243033-045 Digital Signal Processing 1			150 SH 4 TU (L2/S2) AC: written examination		150 SH / 5 Cr

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PROGRAMME SCHEDULE

Module	Semester 1	Semester 2	Semester 3	Semester 4	Workload Credits Total
243033-095 Programming and Data Analysis		150 SH 5 TU (L1/S4) EP: programming assignment AC: written examination			150 SH / 5 Cr
2.4 Practice-oriented specialisation modules					
240100-434 Research Internship			900 SH (I 800 SH) AC: written internship report and colloquium		900 SH / 30 Cr
240100-634 Research Project			300 SH 2 TU (S1/PR1) EP: written paper and oral presentation AC: written paper and oral presentation		300 SH / 10 Cr
243031-095 Applied Circuit Design and Testing			240 SH 6 TU (S2/PC4) AC: oral presentation with colloquium		240 SH / 8 Cr
243031-135 Layout of ICs and PCBs		210 SH 5 TU (S2/PC3) AC: preparation of a circuit/integrated circuit concept, layout design and colloquium			210 SH / 7 Cr

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Module	Semester 1	Semester 2	Semester 3	Semester 4	Workload Credits Total
2.5 Cross-cutting specialisation modules					
220000-605 Optimierung in den Anwendungen			180 SH 4 TU (L2/EC2) AC: oral examination		180 SH / 6 Cr
243031-145 Advanced Methods for Integrated Circuits			150 SH 4 TU (S3/EX1) AC: oral examination		150 SH / 5 Cr

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Module	Semester 1	Semester 2	Semester 3	Semester 4	Workload Credits Total
3. Master's thesis module:					
240100-834 Master Thesis				900 SH 2 AC: Master's thesis, colloquium (oral presentation with discussion)	900 SH / 30 Cr
Total TU (*)	24	25	23	0	72 TU
Total SH (*)	840	960	900	900	3600 SH / 120 Cr
(*) Example calculation for the degree programme taking into account all compulsory modules as well as modules 244036-075, 244038-035, 244033-115, 244037-025, 243032-055, 243031-095, 243031-135, 220000-605 and 243031-145					

AC	Assessment component (DE: PL)	EC	Exercise class (DE: U)
EP	Examination prerequisite (DE: PVL)	T	Tutorial
CSA	Credit-eligible coursework (DE: ASL)	PC / I	Practical class / Internship (DE: P)
TU	Teaching units per week (DE: LVS)	BSG	Business simulation game (DE: PS)
SH	Study hours (DE: AS)	EX	Excursion (DE: E)
Cr	Credits (DE: LP)	CQ	Colloquium (DE: K)
L	Lecture (DE: V)	PR	Project
S	Seminar		